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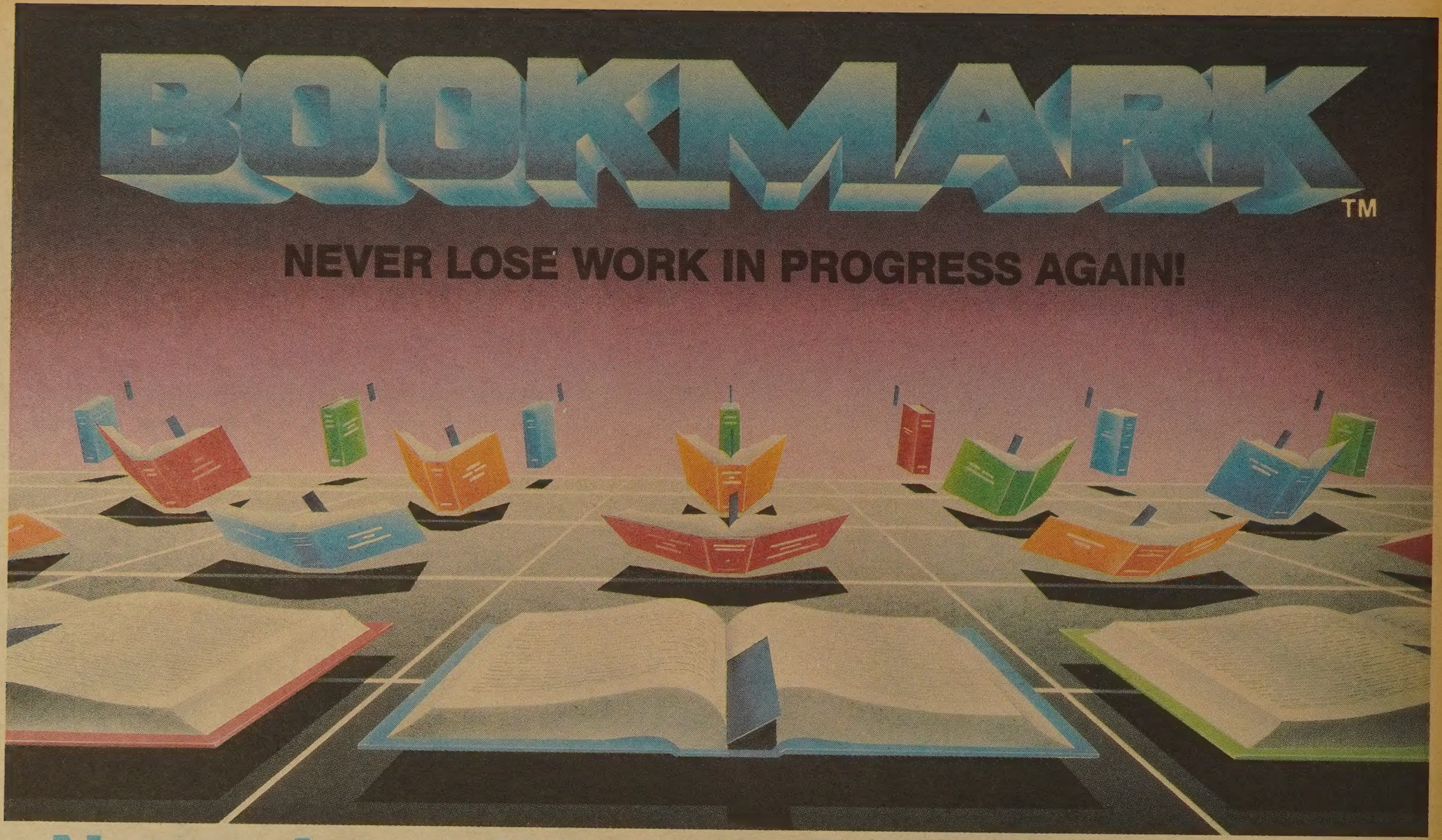
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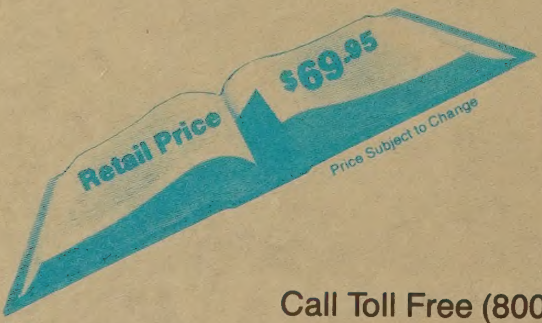

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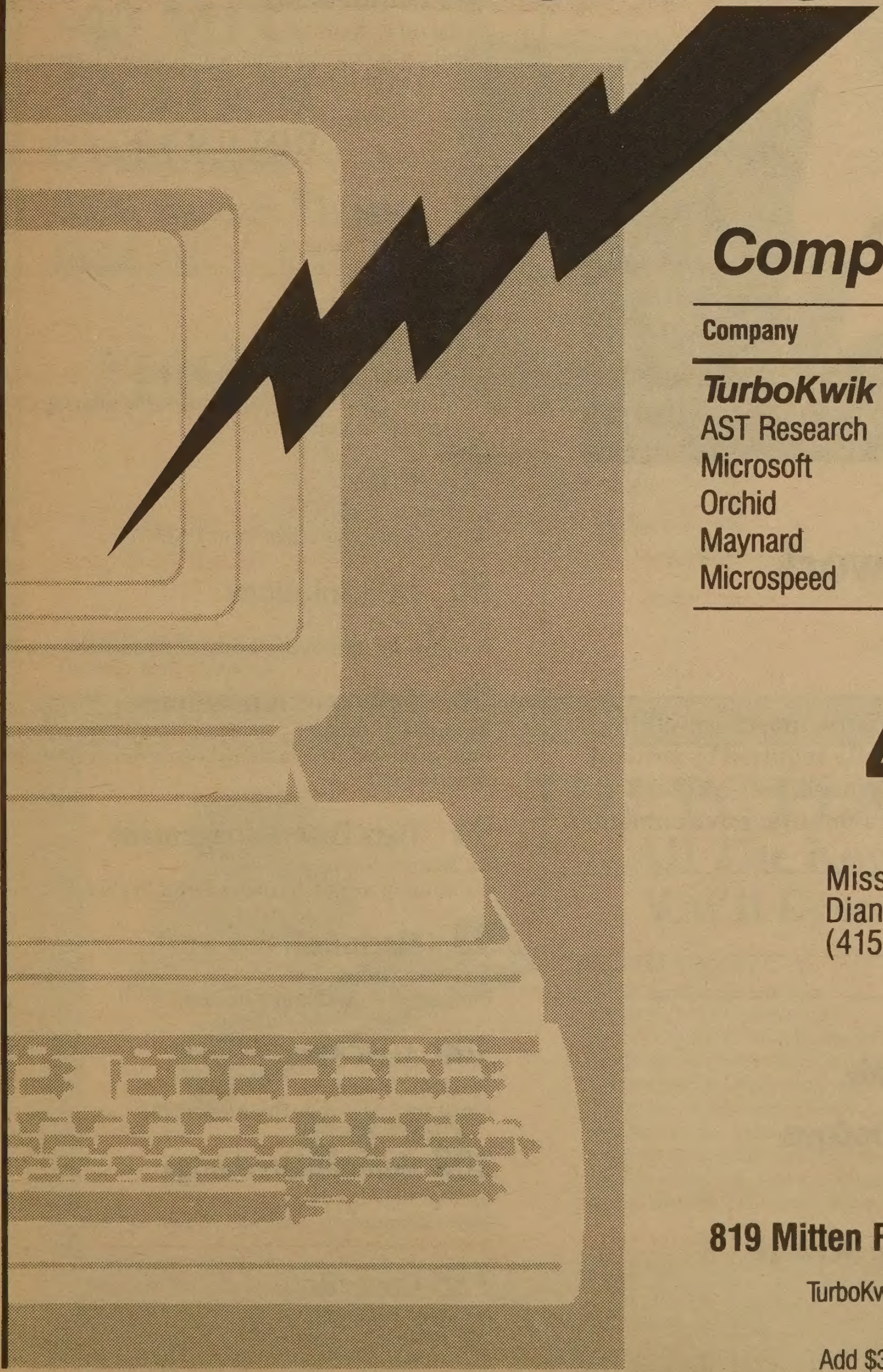

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COVER STORY

Cover and contents photos: Pat Johnson

Nat Goldhaber, founder of Centram, knows a thing or two about LANs.

46 Centram's TOPS Network It's All Connected

By Mary Eisenhart

According to founder Nat Goldhaber, Centram's modest objective is to connect everything with everything else. So far, this Berkeley-based company (recently acquired by network giant 3Com) has managed to link MS-DOS, UNIX and Macintosh machines — in such a way that each machine's operator works on shared files in a familiar environment.

DEPARTMENTS

8 But Jan Lewis Says...
As Apple enters its next phase of growth, its long-range planning is paying off.

9 Letters

13 Calendar Of Events

17 Industry News
By Hartley and Patricia Lesser

102 Index Of Advertisers

112 Buyers Guide

118 Business Products

130 Reviews

138 User Group Network

154 Classifieds

156 Computer Service and Repair Guide

FEATURES

43 The Programmer's Tale
By Hartley and Patricia Lesser
A visit with the creators of Electronic Arts' bestselling game *The Bard's Tale* and its sequel, *The Destiny Knight.*

63 Migent's Quest For The Ultimate Database
By Stephen Wickham
In Incline Village, a team of Ashton-Tate veterans are hard at work on a revolutionary database management system — and looking for interested third parties.

HANDS ON

54
Javelin
By Birrell Walsh
Now available at prices within the reach of the individual consumer or small business, this is a powerful and well-designed financial package.

70
The Zenith Z-181
By David C. Keith
Finally, a laptop computer with the right features — and the right screen.

COLUMNS

73 CP/M
By Robert D. Athey Jr.
CP/M is alive and well at your local user group. Come on down!

74 PC Systems
By Ken Milburn
Peripherals and software products that offer significant increases in efficiency.

78 UNIX
By Bennett Falk
How to download files from USENET.

86 DOS Solutions
By Wayne A. Yacco
Routines for improving the user interface on your PC.

90 Telecommunications
By Brock N. Meeks
Free, or almost-free, bulletin boards run by the federal government.

94 Data Base Management
By Warren Sirota
Continuing discussion of *R:BASE System V.*

98 Macintosh
By Newt Pippin
Phone-Net — LAN on a budget.

100 Atari ST
By Helmi Kobler
Electronic Arts sees the Atari light.

108 Commodore/Amiga
By Matthew Leeds
New Commodore products shown at CES.

158 Cupertino
By Steve Rosenthal
Our fictional series continues: prosperity reigns at Mutronics, but what's this mysterious "flu"?

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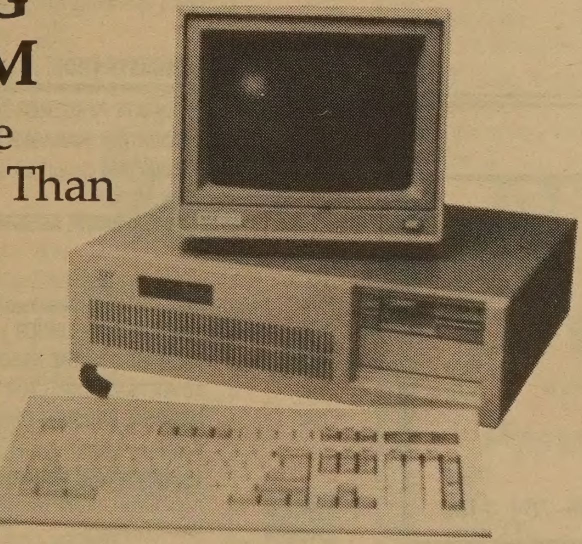

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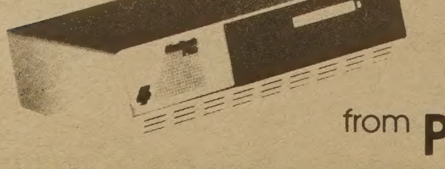

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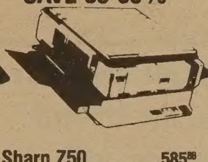

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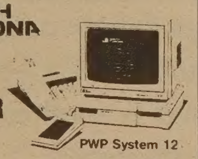

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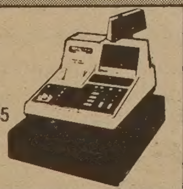

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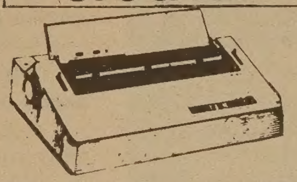

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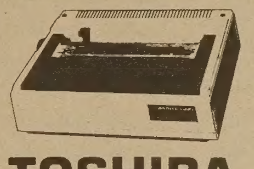

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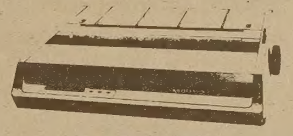

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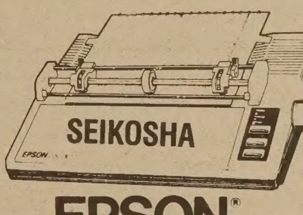

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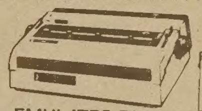

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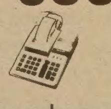

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On The Adolescence Of Apple

It must be fun to be Del Yocam. He has survived and prospered through Apple's hypergrowth, the purges and coups to become the No. 2 honcho. Sales are strong and the stock is approaching its former glory.

Del's analogy of Apple's adolescence is most appropriate: Ready to flex its growing muscles and take on new responsibilities, but concerned about losing its youthful creativity and energy. But, as with many adolescents, some actions may seem awkward, but are really signs of strength.

For example, closing and then opening the Mac to third party peripherals may appear awkward, but these decisions have protected Apple's past markets and future territory. And that protection comes from more than just operating systems but includes hardware, software and presentation. As the industry hears more smalltalk about "look and feel," Apple's strategy becomes more apparent.

A little Apple II history illuminates the strategy. When Apple began 10 years ago, it just did not have the money to provide all the pieces that made the II attractive to hundreds of different types of users. The only choice was to open the box and let the third party entrepreneurs bootstrap the market by developing the many products that Apple could not afford to develop.

Five years later, IBM entered the market quickly, cheaply and with the *least risk* by creating an open and cloneable PC. Compaq, Eagle, Corona, Columbia et al. quickly jumped in, while IBM ramped up its own production. The market responded by buying millions of copies of the IBM standard but without IBM. In contrast, Apple protected the II and then the Mac markets by preventing duplication of the operating system and architecture. The Mac, however, was mostly closed to third party hardware.

Now times have changed. IBM needs to close off the PC to secure a greater piece of the pie, while Apple needs to open up the Mac for third parties to supply the products that the business market demands. So

IBM and Apple are both moving to the hybrid: An open box with an uncloneable heart.

IBM and Apple are both moving to the hybrid: An open box with an uncloneable heart. But Apple adds another level—aggressive protection of the Mac "look and feel."

This defense protects the soul of Apple's strategy to dominate the PC market: Get 'em while they are young by becoming the standard for education computing. An MBA who grows up with an Apple II, then a IIGS, then a Mac running UNIX, is a good prospect for Apple business products.

However, there is no upgrade path through these products, although both Mac and IIGS can share peripherals and AppleTalk. They are essentially incompatible — except both share the Mac "look and feel." Products like *MacPaint* and Activision's *Paintworks Plus* for the IIGS are totally color-, data-, and software-incompatible, but if you know how to use one, you already know how to use the other.

The unifying force that transcends the product incompatibilities is the "look and feel." So by aggressively protecting the Mac and IIGS look and feel, Apple can lock in its upgrade path and reap the benefits when its education customers graduate into the business world and demand the power to be Apple's best customers.

So Apple will protect itself from the attack of the generics (ever wonder why Sculley's third direct report is a lawyer?), while still taking advantage of third party diversity and mobility. UNIX magic running on the 68000-family will provide the upgrade path, as the Mac serves as a business system "microframe."

Therefore, Apple's product line is the Apple look and feel, available on a growing continuum of products, each appropriate to its market segment and distribution. And each able to generate the high margins necessary to maintain the growth. ☐

Power Users Vs. Super Users In Business

In the micro industry, distinct terms often become blurred. For example, the distinction between *power* user and *super* user is being lost, yet their impacts on the industry are remarkedly dissimilar.

Power user has a lovely, macho, young-exec-on-the-make kind of feeling. More megahertz! More storage! Make DOS more complex — I can handle it! More is never enough. Hardware specs make the heart beat faster, and the next software update number becomes a badge of honor. (Some skeptics will note that a power user is someone who would rather play with his PC than get his work done.) Almost all the advertising and hyperbole that bubble around a new product or feature announcement seem directed to this insatiable, power-mad compustud. (But, God bless these power users — they push the market along to innovate and compete.)

But the *super* users like Danielle Barr of the Bank of New England and Karl Kendall, manager of the information center at Metropolitan Life, deal with the personal side of the personal computer. Their strength is in the number of users who depend on them to keep the systems going and growing. They deliver mega support to micro users.

For the super user, compatibility, upgradeability, ease-of-learning, ease-of-teaching and ease-of-installation aren't described neatly in brochures, but are measured by experience. So what began as a job to evaluate products grows into the task of internally developing application software. And with that change, the super user leaves the flat world of specs and "industry benchmarks" for the depths of systems, people and office politics.

This depth makes issues that seem far removed from the keyboard suddenly take on importance. I didn't expect Kendall to be affected by the legal wrangling about "look and feel," of software. He was worried because applications that his organization paid people to develop may run into legal problems. Such industry infighting over user interfaces, site licensing, copyright infringement, operating systems and micro modes may make entertaining press, but only add to the risk involved in any new purchase decision. Long after industry mistakes fade from the press (or courtrooms), the super user still has to answer the phone and provide support.

Super users deliver mega support to micro users – and micro users is another phrase for people.

Another surprise when I spoke with Barr and Kendall was their replies to the question of the "ultimate product." Power users could likely go on for megabytes about the new features and power they would like to see delivered. Barr, however, said she needed more people to help support her large user base — not more products. (Although products that would be easier to support and learn would be helpful.) Kendall had no realistic ultimate product but demanded that any new product not only meet his needs but fit his system. (Imagine the "discussions" he must have with the power users after every NCC and Comdex!)

Because the super user is given the responsibility to fit together, fix up and patch all the pieces, any new whiz-bang will have to meet super user tests that just don't fall into neat columns. While the power user delights in the joys of change, the super user can only justify change when the benefits overpower the support problems. That's only fair, because the power users will be telephoning the super user whenever things don't work.

To meet this responsibility, realism seems to be the best armor for the super user. Barr's comment that her bank's micros have provided the expected benefits was painfully simple: "Yes, because our original expectations were quite low." In contrast, TV ads bombard us with happy talk about how a networked PC will revitalize and energize (and even resurrect) a tired organization and allow you to fly first class. Like the warning box on cigarette ads, Barr's words should be run across the screen. ☐

Jan Lewis is a well-known industry analyst and president of the Palo Alto Research Group, a consulting firm for the microcomputer industry. This article has been reprinted with permission from Computer Insider, PARG's newsletter.

Love That 386...

Thank you for the fine article by Ken Milburn ("The Third Generation PC") in your February issue. It was great to explore the mountain through the "blue haze" regarding the developing 80386 PC.

It was especially applicable for me because I'm trying to build an engineering PC around the 80386, 80387 and 82687/34010, all running at 16 MHz—hadn't heard of the 24MHz.

I'm having a hard time finding a 32 bit motherboard, so I'll be anticipating your upcoming story on "building your own mini."

Chris E. Ema, PE
Santa Ana

(Ken Milburn's article on building your own 386 is experiencing a slight delay due to slow shipping of parts; stay tuned. In the meantime, enjoy this month's PC Systems column on macro programs and other productivity enhancers.—eds.)

Revolutionary Update

Thank you for the review of *Cruise Control* in the February issue. With your help, we've caught some extra attention and given a boost to the speed of hundreds of California cursors.

One problem you mentioned—that DOS couldn't find *Cruise Control* in any directory but the root—we quickly fixed in a subsequent release. We had overlooked the fact that running a program outside the current directory is a feature added to DOS 3.x that is not available in DOS 2.x.

As you pointed out, a few programs like *SmartCom* cannot take advantage of *Cruise Control's* features. We've found five or six applications that take total control of the PC that way, instead of working with it. That's too bad; some of our customers have grown attached to these programs, and really regret that feeling of being left behind the times.

Lyndon Silloway
Manager, Advanced Projects
Revolution Software, Inc.
Randolph, New Jersey

Another ST Heard From

With the advent of your new Atari ST column I become a dedicated reader of *MicroTimes*. Please find attached my check for a subscription.

It is gratifying to see the press start to take the ST seriously. I'm sure you realize that there are a lot of STs out there, and that there are going to be a lot more.

Further, I think it is important for a publication like yours to cover not only the IBM world, but also the world of alternatives. For it is very often the alternatives which both incorporate and prompt innovation and development.

Wayne Hurlbert
Oakland

Once More To The Barricades...

I just wrote to the FCC protesting "Computer Inquiry III," the proposed reregulation of packet-switching networks. Thanks to Brock Meeks ("Packetgate," February issue) for the timely warning and a great article.

Mark E. Smith
Berkeley

(For those readers who may have missed this column, "Packetgate" discussed the FCC's current plan to re-regulate packet-switching networks, a move that's likely to substantially increase costs—and consumer prices—of online networks like GEnie and The Source. If you'd like to be heard on this issue, write to The Honorable Mark Fowler, Chairman of the Federal Communications Commission, Washington DC 20554. —eds.)

Death Of CP/M: Reports Highly Exaggerated

Thank you for your continuing support of the CP/M operating system. Many of us continue to find it more than adequate for our needs, and we appreciate the service your magazine provides in offering product reviews and helpful hints.

George Meyer
Lomita

? For Help...

I really enjoyed Jan Lewis' column on UNIX ("In This Corner—UNIX," February issue). On the other hand, I completely agree with Ms. Lewis' assessment of UNIX as a bit user-hostile—I've been trying to figure out **!chmod go+wx / uh / 31 / maddog / unixvs*.compars.readme** for weeks.

Eugene A. Katz,
Oakland

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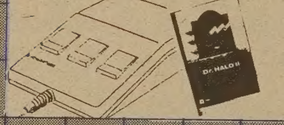

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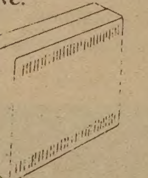

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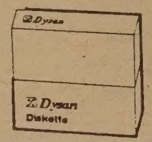

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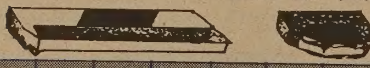

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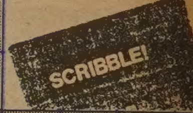

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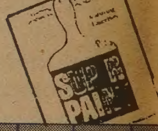

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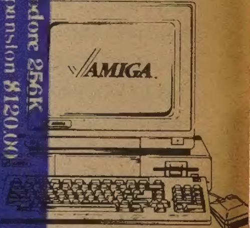

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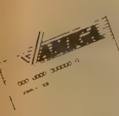

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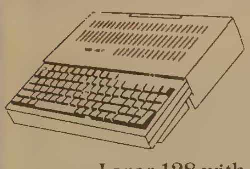

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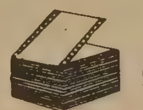

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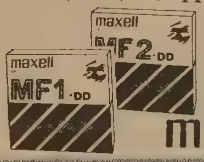

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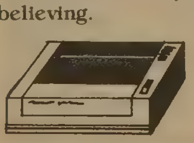

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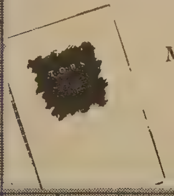

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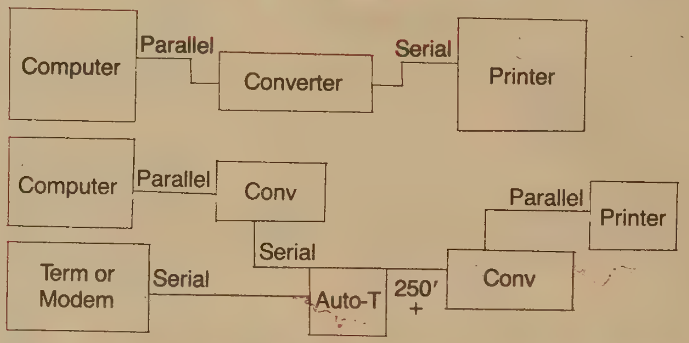
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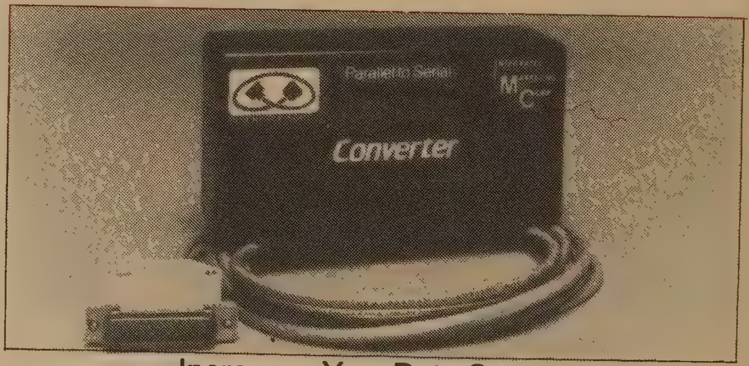
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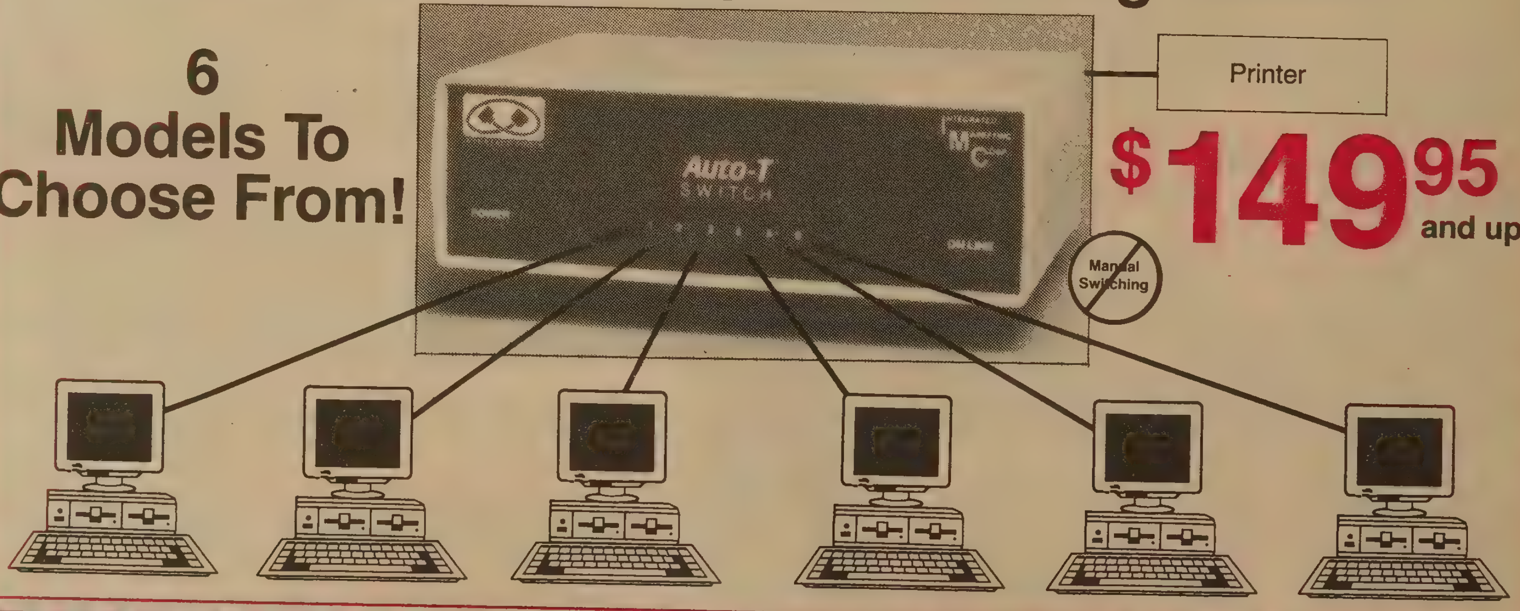
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January-March Computer Classes. Sponsored by the Industry Education Council of Santa Clara County. Various subjects, times and locations. Call (408) 971-6220 for information.

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February 20 The Commodore Show. Brooks Hall/Civic Center, San Francisco. Call Computer Swap, (800) 252-SWAP for information.

February 21 Bay Area Computer Swap. Cow Palace, San Francisco. Call Microshows, (415) 340-9114 for information.

February 21 Marin Computer Expo. Call Golden Gate Shows, (415) 388-8893 for information.

February 21 Desktop Publishing Seminar. Taught by Dr. C.J. Wallia. College of San Mateo. Call (415) 574-6563 for more information.

February 24-27 "Digital Image Processing." Palo Alto. Class sponsored by Integrated Computer Systems. Call (800) 421-8166 for information.

February 28 Sacramento Computer Show. Cal Expo Fairgrounds. Sponsored by Golden Gate Shows and *MicroTimes*. Call (415) 388-8893 for information.

February 28-March 1 Computer Supermarket Show and Sale. San Mateo County Fairgrounds. Call Microshows, (415) 340-9114 for information.

March 4 Yoga At Work. Sponsored by the Association for Women in Computing, Bay Area Chapter. Stagecoach Restaurant, San Francisco. Call (415) 655-3110 for more information.

March 7 Computer Swap. Fresno County Fairgrounds. Call Computer Swap, (800) 252-SWAP for information.

March 7 Santa Cruz Computer Expo. Sponsored by Golden Gate Shows and *MicroTimes*. Call (415) 388-8893 for information.

March 7-8 SOFTEACH—The Computer Products Training Forum. Santa Clara. Call (800) 325-9189 for information.

March 10 Time Line Workshop. San Francisco. Sponsored by Breakthrough Software. Call Training Department, (415) 898-1919 for information.

March 14-15 Oakland Computer Show. Oakland Coliseum. Sponsored by Golden Gate Shows and *MicroTimes*. Call (415) 388-8893 for information.

March 21 Bay Area Computer Swap. Cow Palace, San Francisco. Call Microshows, (800) 433-7469, (415) 340-9113 for information.

March 25 Twelfth Annual Pro-Comm Awards Ceremony. Santa Clara Convention Center. Sponsored by Business/Professional Advertising Association. For reservations and information, call (408) 554-9187.

March 26-29 West Coast Computer Faire. Moscone Center, San Francisco. Call The Interface Group, (714) 476-2300, (415) 364-4294 for information.

March 30-April 1 Data Cartridge Technology Conference. Los Angeles. Call (818) 906-9962 for information.

April 11 Computer Swap. The Concourse, San Francisco. Call Computer Swap, (800) 252-SWAP for information.

April 11-12 Computer Supermarket Show and Sale. Santa Clara Convention Center. Call Microshows, (800) 433-7469, (415) 340-9113 for information.

April 18 Computer Swap. Santa Clara County Fairgrounds, San Jose. Call Computer Swap, (800) 252-SWAP for information.

As a community service, MicroTimes lists trade shows, seminars, and other special events in the Calendar of Events free of charge on a space-available basis. To improve the likelihood of your listing's timely inclusion, please make sure we have the necessary information no later than the first of the month two months before the cover date of the issue in which you'd like it to appear (i.e. the deadline for the December issue , on the street in November, is October 1). Send to: MicroTimes Calendar of Events, 5951 Canning St., Oakland, CA 94609.

News about user group meetings and other regularly scheduled activities should be sent to User Group Network at the same address.

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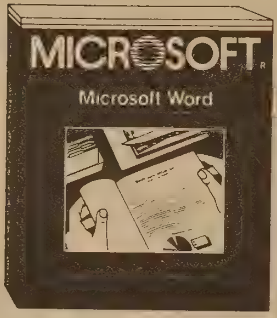

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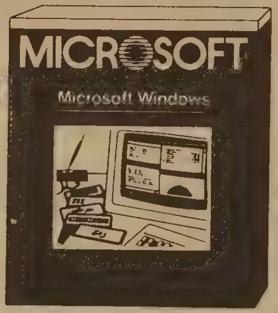

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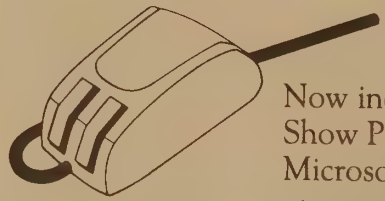

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Diamond Software
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On The Firing Line

Boards From Boca Research: High Quality, Low Price

By Stephan Wickham and the Diamond Software Technical Team

Many of you haven't heard of Boca Research in Florida, but it's doing a great job of delivering high-performance add-on products for IBM micros at attractive prices. Boca Research, Inc. was founded two years ago by Tim Farris, the man who started Quadram Corporation. Boca has developed several slick IBM add-on products which offer unique features, high performance and a lower price than similiar high-quality products.

The Boca I/O boards are the solution we at Diamond recommend if you're running short of ports and require no more than one serial and one parallel port on one board. There are two models—the Boca I/O for the IBM PC/ XT and the Boca I/O for the IBM AT.

The PC board provides a clock/calendar for your applications, a parallel port, serial port and an optional game port. The AT board has a parallel port, a high-speed serial port and optional game port. Installation is a breeze with the Boca I/Os because there are no switches or jumpers to set—you just pop open the hood on your PC, drop in the Boca I/O and load your configuration software. Through the software menu you can choose between COM1: or COM2: for the serial port and LPT1: or LPT2: for the parallel port.

The Boca I/O design is centered around a custom VLSI chip, which is used for I/O address decoding. Once the port addresses are defined, your configuration is stored in electrically erasable programmable read only memory (EEPROM). The clock/calendar on the IBM PC/XT board can be enabled/disabled through the software. The Boca I/O is ready to go each time you power up your system. Also included with the boards is a nice print spooler utility on disk.

PRINTKEY 1.1

We have recently come across a great printer utility from Northwest Software Associates up in Spokane, Washington, not far from our friends at Boeing Computer Services. NWSA has released *PrintKey 1.1,* a universal printer driver package that should be known as the "Norton Utilities" of printer drivers. The new version contains over 250 prewritten, ready-to-use printer drivers which provide you easy access to the features of your laser, dot matrix, daisywheel and ink-jet printer.

We have found that *PrintKey* makes any of over 250 printers compatible with any software that you might have. With *PrintKey* you have access to all of your printer's advanced features at any point in your work. You might use these features to call attention to specific items and generally improve the appearance of your printed documents. A special feature of *PrintKey* is that it works from within your favorite software. There is no need to change your program to patch in *PrintKey's* power.

PrintKey works with the principle of macros. Each macro can be up to 128 bytes long, which is enough room even for long, complex commands required by laser printers.

PrintKey also has a pause and delay character feature that you can use anywhere within your documents and reports. You can use this feature to switch cartridges or daisywheels for different fonts and special characters, or change ribbons to a different color, even on printers that by themselves don't support such features.

If you forget your printer control commands, *PrintKey's* pull-down menu will pop in over your currently running application. All your macros are displayed by name, character and key, which is much more efficient than handwritten "cheat sheets."

PrintKey will suit your particular needs now, and as your needs change, so can *PrintKey.* Since you can create and modify your own macro files, you can begin using new printers immediately, without having to wait for application software updates.

THE TI OMNILASERS

We have found that for many marketing publications it is not necessary to resort to professional typesetting in order to produce effective material. Many works can be attractively and inexpensively handled on a laser printer with the current standard of 300 dots per inch resolution. It is not always necessary to resort to the 2000 to 4500 lines per inch that are common on Compugraphic, Alpha and Linotronic equipment to produce many high-quality publications.

At Diamond Software we are frequently asked to supply our corporate customers with a high-capacity and high-quality page description laser printer. Because of our own internal usage of desktop publishing applications, we have had to experiment with many new-technology publishing products, including Quadram, AST, Hewlett-Packard, Texas Instruments, Apple and Oasys laser printers. Most did not offer us the necessary flexibility for serious desktop publishing work beyond letter and document production. Quadram, AST and Hewlett-Packard are missing the page description language that we find necessary. Oasys provided us printers with a page description language but without wide software support. Apple's laser printer has a light duty cycle print engine that operates below our output needs. Only the Texas Instruments Omnilaser series laser printers are affordable and flexible enough to produce newsletters, mailers, catalogs and in-house forms.

Why the requirement for the page description language? Adobe Systems PostScript is the main language built into a number of different printers, including Apple, Texas Instruments and QMS. The Postscript Page Description Language (PDL) lets you take a single type font and, through software control (such as Xerox's *Ventura Publisher*), modify it to any point size, in any degree of boldness, at any angle. You have complete flexibility to exactly fit headlines to the space available, to fit labels into complex charts, to set sub- and superscripts. With PostScript you can rotate, scale, translate, draw lines, shapes and arcs, shade and precisely position text and graphics.

It is necessary to have a laser printer with a page desciption language if you intend to go beyond producing letters or reports; otherwise you will go mad trying to design your communication materials on a first-generation laser, such as the Hewlett-Packard. A good way to illustrate this problem is with font loading. On the H-P and similiar machines, you must individually load fonts in every size, shape and rotation that you will need. The memory capacity of the machine will limit you to a set number of combinations. On top of this, each unique font must be purchased for each size, with only three or so weights (typically one bold, one regular, one italic and sometimes a footnote size) for each snap-in cartridge. A typical office supply catalog that was dropped on my desk lists these fonts at over $200. Another interesting, and often overlooked, fact is that the memory cartridge can only be downloaded so many times before its memory contents become unreadable.

There are other ways, such as downloading from floppy disks, to get fonts into lasers, but you still run into the limitation that the printer RAM size imposes, not to mention very long load times.

Armed with these facts, we selected the Texas Instruments OmniLaser series laser printers, which come in two PostScript-supporting models: the eight-page-per minute 2108 and the 15-page-per-minute, dual-bin 2115.

The OmniLaser 2108 can print 10,000 pages per month; it has a machine life of 600,000 pages before major service, a 250-sheet bin, and it outputs the paper in correct facedown order. It emulates the Diablo 630, H-P LaserJet Plus, TI 855 DP/WP, and H-P 7475 plotter (HP-GL language). Standard on the machine is 576K ROM and 2MB of RAM. Found on the back of the machine are RS-232, Centronics parallel, AppleTalk and RS-422 ports. The printer is controlled through a control panel with a 16-character LCD or through your software.

The OmniLaser 2115 is basically similar, but is a faster dual bin machine with a heavier duty cycle. Major differences are a duty cycle of 25,000 pages per month and a machine life before major service of 1.5 million sheets. The machine is also equiped with 3MB of RAM.

We think that the OmniLaser will give you the closest approach to the "typeset look" you can get without delaying a job several days at a typesetting shop. The OmniLaser will give you better resolution than many magazines use.

Please keep your requests and comments coming. If you would like additional information, we welcome your phone calls at (415) 633-2589.

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A total $624 value for only $259

The WordPerfect Library contains several desktop applications and utilities including a notebook, a calendar, a calculator, a shell, a program editor, a macro editor and a file manager. This $129 value is yours for only $20 with your purchase of WordPerfect 4.2 from Diamond. Quantities are limited to stock on hand, so call Diamond today.*

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Diamond Software
7916 Capwell Drive, Oakland, CA 94621

Industry News

By Hartley Lesser and Patricia Lesser

Apple Computer Clubs Competition

Apple Computer Clubs International (Cupertino, CA) has officially opened Competition '87, the fourth annual Apple Computer Clubs Merit Competition for student members and advisors in the US and Canada. The competition offers winners a chance for an all-expense paid trip to Washington, D.C., where they will be honored at an awards ceremony and will participate in other planned educational activities. Contact John Marvell at 800/343-1425 for further information.

Free Update For AutoCAD AEC Architectural

Autodesk, Inc. (Sausalito, CA) has announced that the company is shipping version 2.5K of *AutoCAD AEC Architectural* free of charge to all registered users. The new version allows users to make door and window insertions in walls with a thickness greater than 12 inches, and also corrects some minor errors in the previous version of the product.

Bridge To Acquire Phoenix Technology

Bridge Communications (Mountain View, CA) has signed a letter of intent to acquire Phoenix Technology Inc. (Santa Clara, CA). Phoenix will become a wholly-owned Bridge subsidiary specializing in LAN products for government and high-security applications.

DEST Publish Pac With Graphics

DEST Corp. (Milpitas, CA) will be shipping Silicon Beach Software's *SuperPaint*, a graphics and imaging program for use on the Mac Plus, as part of its *Publish Pac* scanner software. *SuperPaint* features a full palette of painting tools, a complete tool box of drawing tools, and Silicon Beach's LaserBits capability for editing 300 dpi images. *Publish Pac* software works with DEST's PC Scan and PC Scan Plus page scanners.

DRI's New Protected Multitasking System

Digital Research (Monterey, CA) has initiated shipments of a new release of a protected mode, real-time, multitasking operating system that supports MS-DOS 2.1 programs, FlexOS V1.3 This is the first product from DRI's Flexible Automation Business Unit and is the first independently supplied operating system for CIM systems.

GE's Defense Contract

General Electric Research and Development (Schenectady, NY) has been awarded a $4.4 million contract by the U.S. Defense Advance Research Projects Agency through the Army Research Office. The company is to pioneer a computerized "intelligent control system" which will speed the commercial production of high-quality gallium-arsenide crystals. This new technology should also be transferable to the production of other difficult-to-grow crystals, such as neodymium-based materials for high-powered lasers under development for industrial applications.

IBM Cuts Prices

IBM (Rye Brook, NY) has reduced prices on two models of its XT computer and one AT model. The single unit price on the XT Model 286 has been reduced to $3,395 from $3,995, and the XT Model 089 is now $2,660, as compared with $2,895 previously. The AT Model 068 is now $3,395, down from $3,995.

Letraset Changes Plans

Letraset USA (Paramus, NJ) has announced that *LetraPage*, the desktop publishing program it acquired from Boston Publishing Systems, is not ready for release and will be returned to the originating company. Letraset has, however, retained the rights to *LetraHyphen* and *LetraIndex*, both developed by Boston. Letraset did acquire the exclusive worldwide rights to market *Ready, Set, Go!*, Version 3.0, from Manhattan Graphics.

Lifetree's Flexible Corporate Site License

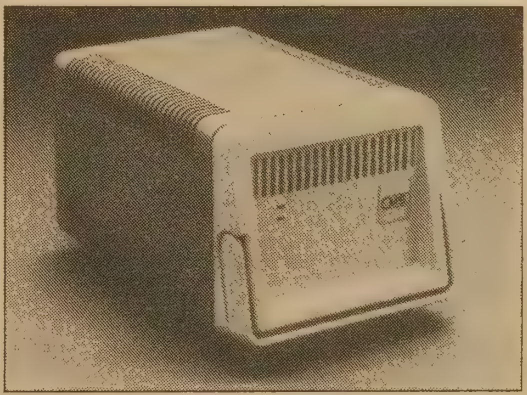
Lifetree Software, Inc. (Monterey, CA) has a new, flexible Corporate Site License Program for its recently-released *Words & Figures* product. Customers with as few as 15 PCs may cost justify participation in the program, which includes dealer incentives and discount pricing for em-

New From CMS

CMS Enhancements Inc. (3080-A Airway Ave., Costa Mesa, CA 92626, 714/549-9111) has introduced several new subsystem products. The first is Data Exchange, a SCSI storage subsystem that links the Apple IIe and IIGS with the Macintosh Plus, enabling the systems to share files and data. The new subsystem consists of a SCSI hard disk drive featuring 320 MB of mass storage and proprietary software developed by CMS which converts data developed on either the Mac or the Apple machines so that it can be read by either machine. The system supports one Macintosh and five Apple II PCs and is 20 times faster than AppleTalk. ($7,995)

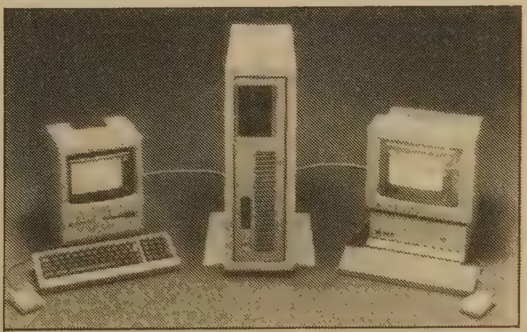
Also introduced was the company's first 40 MB, 3.5-inch subsystem for the Apple II and Macintosh. Designated the S-40, this subsystem employs proprietary technology to achieve an average access time of 29 ms. ($1,995) CMS is also offering an Apple II compatible SCSI interface card to OEMs and computer dealers that enables a II system running ProDOS to support up to two hard disk drives utilizing the SCSI protocol, or to share a common hard disk drive with the Macintosh. The card is designated the CMS SCSI II Interface and can support either two SCSI hard disk drives or two partitions on the same drive. ($129)

Also debuting is CMS's Data Tower, an external mass storage subsystem that features 140 to 320 MB of storage, consisting of a single, high capacity disk drive in a deskside pedestal. With the CMS SCSI II Interface card, the Data Tower will work with the Apple II family as well. ($4,995 for 240 MB, $6,495 for 320 MB)



CMS's Data Exchange is a fast, SCSI-based link between Mac and Apple II machines.

The S-40 is CMS's fast 40 megabyte, 3.5 inch subsystem that lets Apple II and Macintosh machines share a common hard drive.



The CMS Data Tower is an external SCSI-based mass storage system for Macintosh or Apple II (with SCSI card).

Hartley and Patricia Lesser are veterans of computer publishing, having published over 500 feature articles and reviews in computer magazines worldwide and assisted in founding four national computer publications, including inCider. *They have also worked at* PC World, Softalk Publishing, *and several other publications, and founded two online computing magazines,* MicroToday *and* Corporate Computing. *They currently publish and edit* Computing Today! *a weekly computer magazine on the GEnie personal network and the NewsNet business network. They can be reached at (415) 828-1528.*

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Origin Systems Moves

Origin Systems, the home of such classic entertainment software as Lord British's *Ultima* series, *Ogre* and *AutoDuel*, has moved to a new address. Origin Systems is now located at 136 Harvey Road, Building B, Londonderry, NH 03053, 603/644-3360.

Pecan Acquires Jack2

Pecan Software Systems Inc. (Brooklyn, NY) has acquired all rights to *Jack2*, an integrated software package featuring word processing, graphics, database and spreadsheet. The program was purchased from Business Solutions, Inc., and the initial release is for IBM micros and compatibles.

AppleLink Gets Glue

Solutions Inc. (Montpelier, VT) has announced that *Glue*'s ImageSaving and displaying capability will be made available to AppleLink users. Users of *Glue* and AppleLink can "print to disk" from almost any Macintosh application and send the resulting file, including graphics, to AppleLink. The recipient will be able to display, print, or even copy from the file without having to own a copy of the creating application.

Spectrum Holobyte/Nexa Merger

Spectrum HoloByte, Inc. (Boulder, CO) has merged with the Nexa Corporation (San Francisco, CA), with the new company being named SPHERE, Inc. SPHERE, in turn, was acquired by Pergamon Press (London, England).

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Electronic Arts (1820 Gateway Dr., San Mateo, CA, 94404, 415/571-7171) has introduced the *New Technology Coloring Book*, a creativity tool that teaches users about modern technology while painting electronic images. This offering is a simple, color-by-number system that contains prepared images representing various scientific categories such as the body, the universe, lasers, computers, genetics, interstellar communication, and more. As these images are colored, either with the user's personal choice of color or with guidelines from the computer, visual changes will occur to help the user understand and learn more about the technological topic being portrayed. For the Atari ST and Amiga computers. ($19.95)

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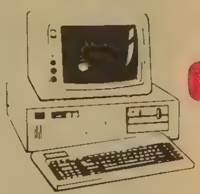

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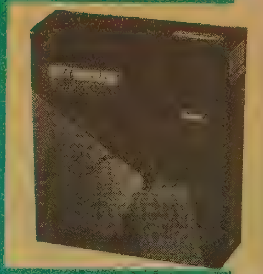

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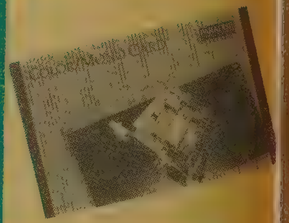

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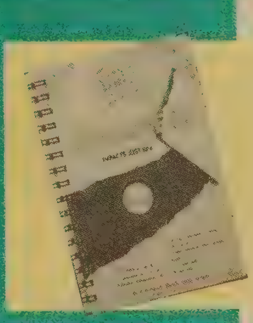

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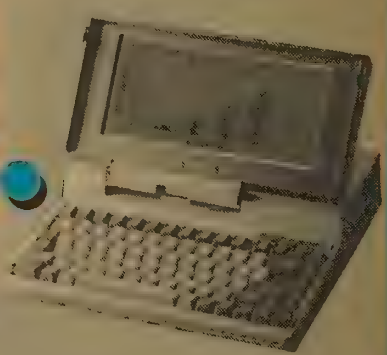

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COMPUTOWN

Proposed Optical Disk Standard

Optotech, Inc. (Colorado Springs, CO) has announced that it will propose a disk format standard to the American National Standards Institute (ANSI) committee which is establishing standards for 5¼", write once optical disk drives. The proposal, one of several before the committee, is the only one to closely couple track format with an error correction system. Optotech officials believe these two elements must be considered together to ensure data integrity over the life of the media and under worst-case conditions. The error correction code (ECC) specified in the proposal was developed by Data Systems Technology President Neil Glover and has already been endorsed as a potential ANSI standard by the X3B11 Committee.

RUMORS

■ In a recent legal case, Activision has settled an out-of-court disagreement with a group of stockholders for nearly $4.25 million. Actually, $2.5 million will be offered as compensation by Activision in common stock, the remaining millions to be fronted by venture capitalists, underwriters and insurance. The suit was filed back in 1983 by shareholders claiming that the company had not informed stock purchasers of the impending decline of the video game market.

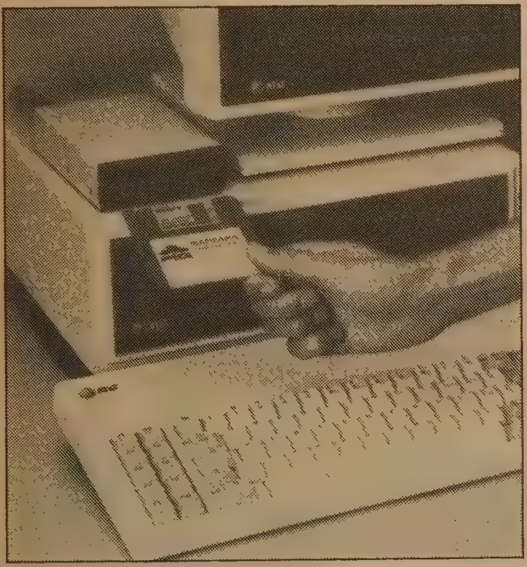
■ Aldus still plans a March release date for *PageMaker 2.0* for the Macintosh. This upgraded version is expected to feature automatic kerning, automatic dictionary-based hyphenation and justification, plus the ability to work with 128-page files. There is also purportedly file compatibility with IBM PC-based word processors, as well as with the PC version of *PageMaker.*

■ Now rumors abound about Apple's intentions to acquire some major companies—after all, what would you do with over $500 million in cash? Alleged targets for takeover include the likes of Sun Microsystems (manufacturer of workstations), Adobe Systems (the PostScript folks) and 3Com Corporation (LANs).

■ Ashton-Tate is upset again—this time at two publishers, Migent and Queue Associates. The Torrance-based publisher of *dBASE* and the like claims that these two companies are guilty of the high crimes of trade secret misappropriation, unfair trade competition and breach of contract.

■ Meanwhile, *dBASE MAC* is still buggy, so the release date for the program has been re-GANTTed for sometime during the second quarter of '87. Ashton-Tate has not indicated exactly what problems have plagued the Mac version of its most popular database product.

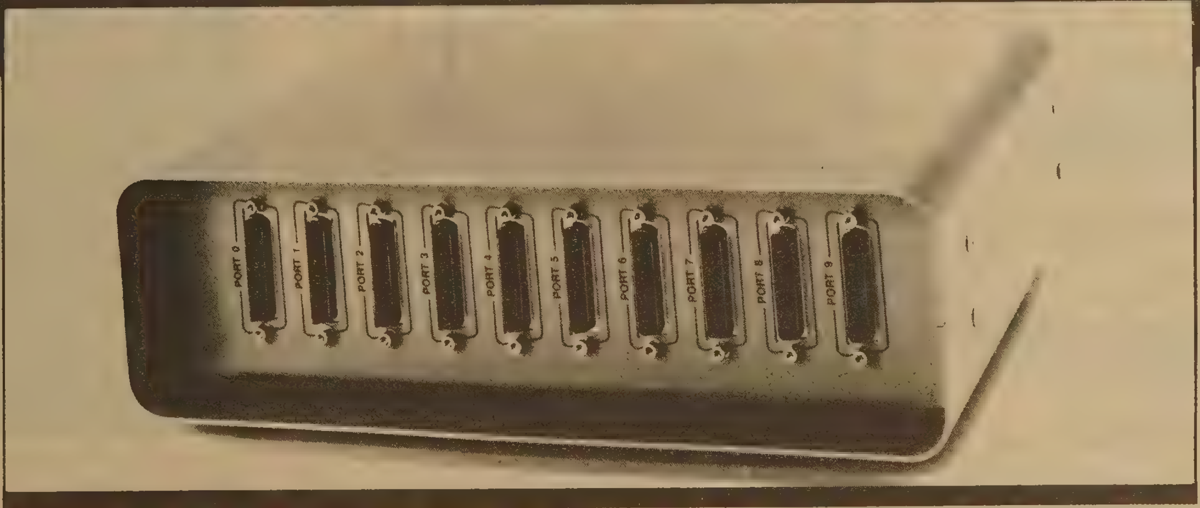
■ Talk about diversification! There was a time when Apple was the furthest product line from the minds of AST Research. Now that company has developed and is marketing all manner of drives and other peripherals for the Apple market, and is now planning to release a new modem line for the Macintosh. Four of them, all Hayes compatible, can be expected, with prices ranging from $500 to $1,900.



Manzana MDQ

Manzana Microsystems, Inc. (7334 Hollister Ave., Ste. B, Goleta, CA 93117, 805/968-1387) has introduced their Manzana MDQ host-powered 3.5-inch floppy disk drive system for upgrading IBM micros to the new 720K 3.5-inch disk technology. The drives are compatible with more MS-DOS desktop computers than any other product; they can read and write to virtually all 3.5-inch MS-DOS formats; they work with DOS 2.X or greater, and are easy to install.

The Manzana MDQ host-powered floppy disk drive system lets PCs and compatibles take advantage of the more efficient 3.5 inch floppy disks.



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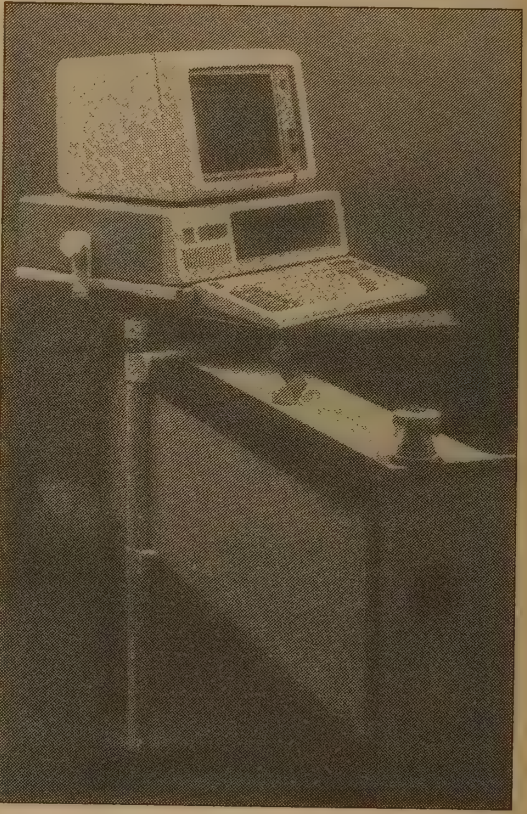
RECREATIONAL/ EDUCATIONAL

Amiga Bard's Tale

Electronic Arts (1820 Gateway Dr., San Mateo, CA 94404, 415/571-7171) has released *The Bard's Tale* for the Amiga computer. *The Bard's Tale* incorporates advanced animation and enhanced sound. The plot revolves around the player's attempts to halt the spreading influence of the evil wizard Mangar, which requires the complete exploration of the city of Skara Brae. There are four types of magical power which can be called upon, and superb three dimensional scrolling of streets and dungeons. ($49.95)

War In The South Pacific

Strategic Simulations Inc. (1046 N. Rengstorff Ave., Mountain View, CA 94043, 415/964-1353) has released *War In The South Pacific*, for players who wish to experience a semi-real time campaign game set in the South Pacific during WW II. Three scenarios to choose from include The Battle of the Coral Sea, the Invasion of Guadalcanal, and the Japanese attempt at counterattack on Guadalcanal. Strategic wargamers have the weapons and firepower of over 400 ships, 17 types of aircraft and numerous infantry units to engage battle in one-,



Flexarm allows for economical use of space as well as adjustments for personal comfort at workstations.

Flexarm

Screen Data Corp. (80 S. Jefferson Rd., Whippany, NJ 07981, 1/800-248-1212) has introduced the Flexarm Swing computer workstation. Flexarm is a versatile all-steel CRT swing that holds an entire mainframe or PC system, including the CRT, CPU and keyboard. The offering's unique, unipod design distributes the weight of the equipment to the floor, thus unburdening the desktop. Flexarm supports up to 150 pounds. The unit can turn 360 degrees and is fully adjustable for height, position, and angle for keying or viewing. The keyboard retracts when not in use.

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four- or eight-hour modes. The game is designed for two players or can be played against the computer; it was written by Gary Grigsby. For the Apple II computer family. ($59.95).

ST Chessmaster 2000

Electronic Arts (1820 Gateway Dr., San Mateo, CA 94404, 415/571-7171) has announced that the highly acclaimed *Chessmaster 2000* is now available for the Atari ST computer. The *Chessmaster 2000* is based on the award-winning algorithm that was rated at 2,018 by the U.S. Chess Federation; it has more than 71,000 opening positions, as well as the largest opening move library ever available on a micro. There are 12 levels of play plus a Teach Mode and a Hint Mode. ($44.95)

Apple II Spindizzy

Electric Dreams (2350 Bayshore Parkway, Mountain View, CA 94043, 415/960-0410) has released *Spindizzy* for the Apple II computer family. This is a three-dimensional arcade game that calls upon you to examine a strange new dimension hanging around in space. Using your gyroscopic Geographic Environmental Reconnaissance Land Mapping Device (GERALD), you set off to explore and map this surrealistic new environment which is composed of more than 380 3-D screens. ($34.95)

Single-Package Zork Trilogy

Infocom, Inc. (128 Cambridge Park Dr., Cambridge, MA 02140, 617/492-6000) has, for the first time, released all three stories in the *Zork Trilogy* in one package at a saving of almost 50 percent off the individual purchase price. The *Zork Trilogy* takes place in a vast underground labyrinth—the rem-

RUMORS

■ Now the rumors can finally cease regarding those PC clones that both Atari and Commodore were allegedly going to release—week after week, month after month. Both companies have provided more than TalkWare, as attendees at the Computer Electronics Show in Vegas can attest. The Atari MS-DOS compatible is called the Atari PC, and the Commodore line continues its allegiance to a numeric system, theirs being called the PC10-1 and the PC10-2. To be released later during the first quarter, the Commodore machines are available with 512K of memory and will sell for less than $1,200. The Atari PC will pack a pricing of around $700, and will sport a modem and printer port as well as 512K of memory. At the same show, Atari introduced its 800 XE machine.

■ Also get ready for an Atari ST version of *Excel* from Microsoft. Negotiations are still currently underway between MS genius Bill Gates and Atari leader Tramiel, according to our sources. You could also expect a UNIX-compatible release from Atari, which is becoming more and more a member of the Top Dog computing companies.

■ We've discussed MS-DOS boards for the Apple II family—now there's a company producing a PC board that'll run Apple DOS 3.3 software in an IBM micro or compatible. This offering is from a company called Diamond Computer Systems in Sunnyvale, CA: the board is called the Trackstar.

■ For all of those who have purchased the IIGS and wonder when something like *DeluxePaint* will be available for their machine, hang on—to be released shortly is *DeluxePaint II* for the IIGS from Electronic Arts, a program well worth the wait!

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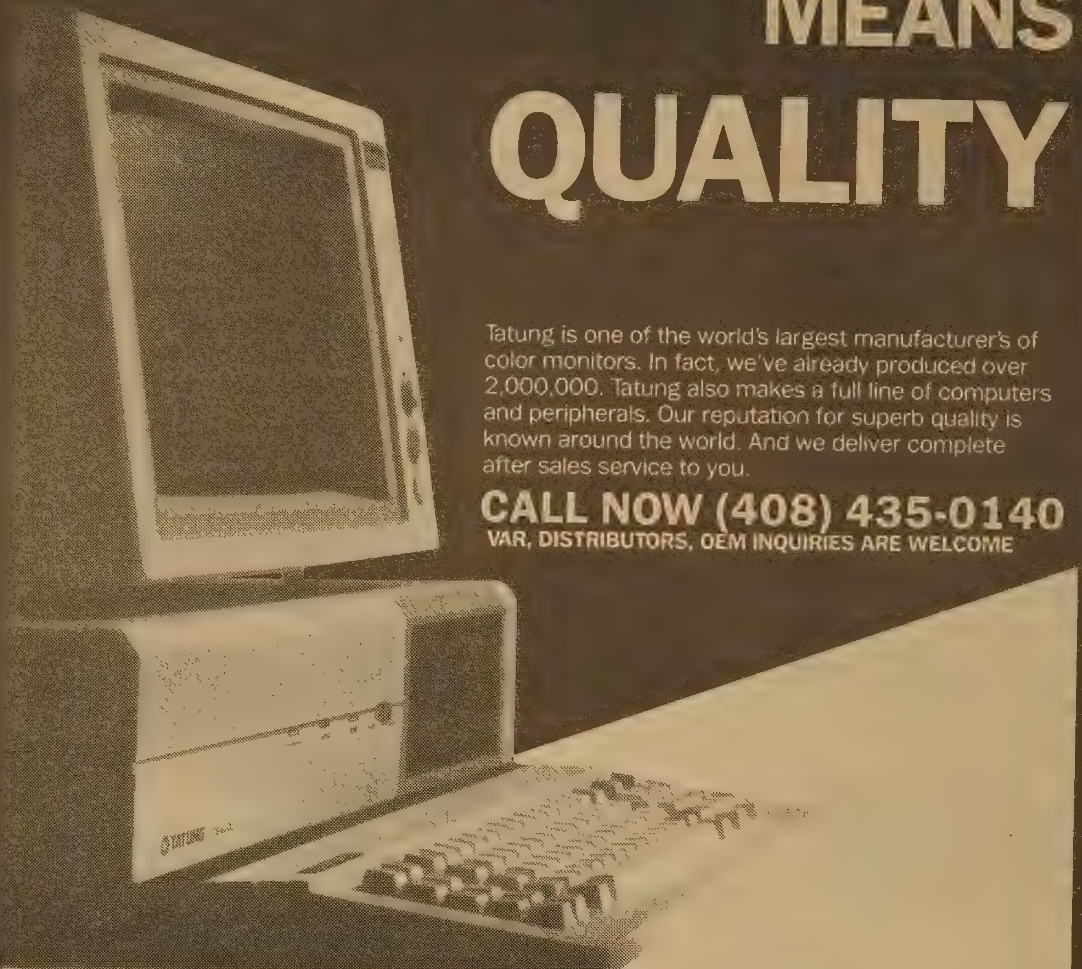

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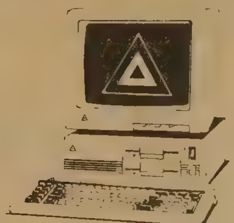

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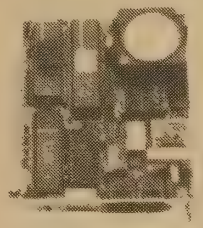

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nants of a fantastic civilization known as the Great Underground Empire. Many strange tales have been told of its exotic creatures, extraordinary sights, and diabolical puzzles. *Zork I* takes you into this fabulous land in search of the incomparable Treasures of Zork. *Zork II* has you journeying into lands controlled by the frivolous Wizard of Frobozz; *Zork III* draws you into the deepest and most mysterious regions of the empire. A special Zorkmid coin has also been minted to celebrate the release of the *Zork Trilogy*. This package will be available for the Apple Macintosh and Apple II family this month. ($69.95)

Commodore Releases From Mindscape

Mindscape, Inc. (3444 Dundee Rd., Northbrook, IL 60062, 312/480-7667) has announced five new arcade games for the Commodore 64/128 computers. The first is *Uridium*, where you must fight off a squadron of enemy Super-Dreadnaught ships, which are depleting your galactic sector's mineral resources. With fifteen levels of play, this game will be available in January of '87. ($29.95)

Trailblazer offers the player a series of soccer ball races that take you through hyperspace networks of changing color grids. One or two players can race through the game's 20 fixed courses on a split screen or travel through a random course. ($29.95)

The third offering is *Parallax*, which places you and four other astronauts on an alien planet. You must now thwart an imminent alien attack on Earth. With 3-D graphics, arcade action, puzzles and multiple play levels. ($29.95)

Mindscape's accurate and detailed martial arts simulation is *Uchi Mata*, based on Judo. Players become practiced at all of the major judo throws while competing against another player or against the computer. ($29.95) Another martial arts simulation is *FIST: The Legend Continues*, which puts the player in the role of Kung Fu master. Players marshal their skills to defeat such adversaries as Ninja assassins, mighty shoguns, warriors, mercenary soldiers, panthers and peasant villagers. ($29.95)

Macintosh Dark Castle

Silicon Beach Software, Inc. (P.O. Box 261430, San Diego, CA 92126, 619/695-6956) has debuted the Mac version of its *Dark Castle* recreational offering, which incorporates digitized sound and arcade adventures. The Black Knight is the evil ruler of the Dark Castle, and it is the player's obligation to find and defeat this villain in battle. You control the movements and actions of your hero as he battles his way through the Castle. The game features RealSound and offers stunning graphics and smooth animation. ($49.95)

New PC Games From SSI

Strategic Simulations, Inc. (1046 N. Rengstorff Ave., Mountain View, CA 94043, 415/964-1353) has converted five games to PC formats. The five converted games are: *Roadwar 2000, Rings Of Zilfin, Shard Of Spring, Phantasie* and *Wizard's Crown*.

Roadwar 2000 is a strategic adventure game set in the future where survival is dependent upon a good set of wheels. *Rings Of Zilfin* uses animated window graphics and economic considerations for success in this fantasy adventure. *Shard Of Spring* is a multi-player fantasy game that requires the rescue of the Shard Of Spring from its captor. *Phantasie* is also a multiple character role-playing game with a party of one to six characters searching for the nine rings to defeat the Black Lord. And *Wizard's Crown* features detailed tactical combat through dungeons and castles to retrieve the magic crown. ($39.95 each)

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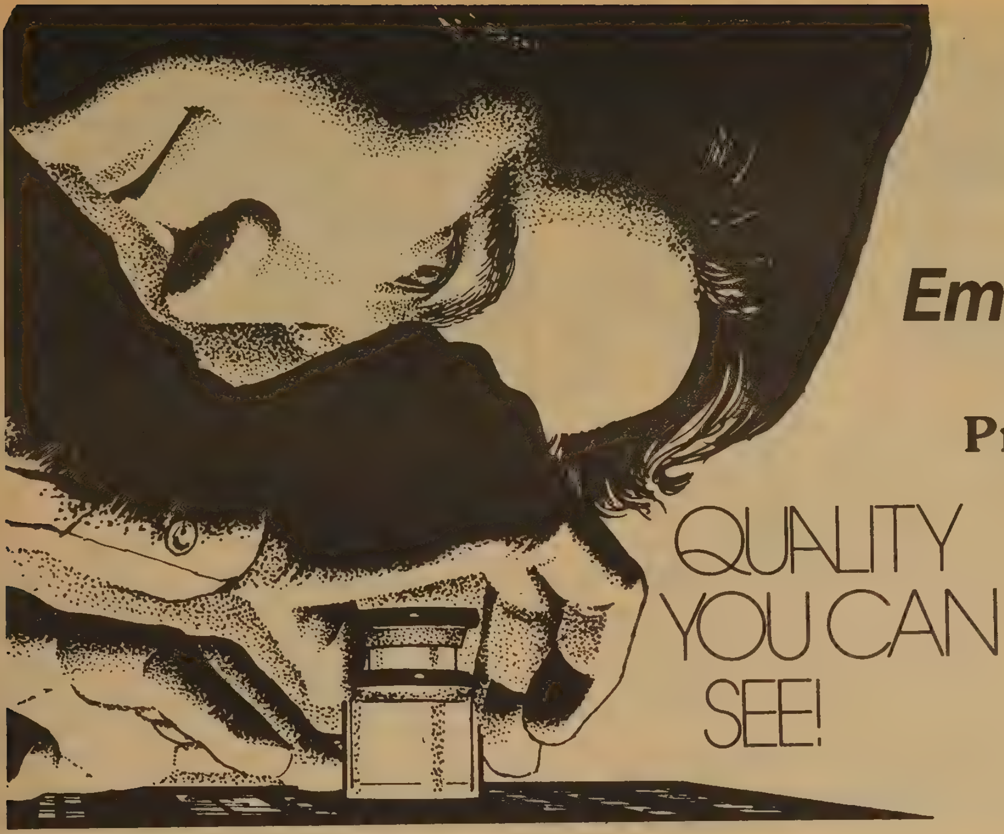
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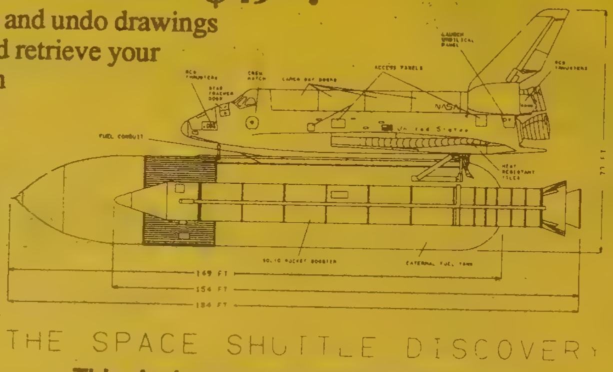

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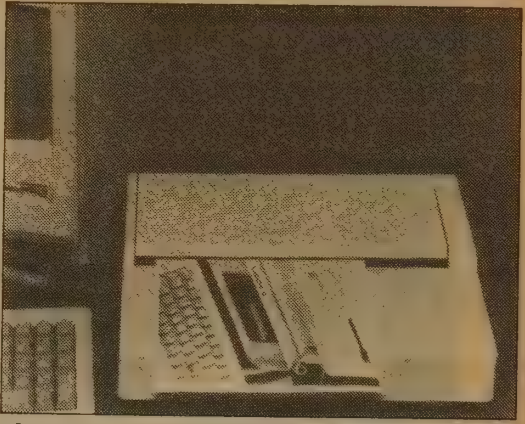

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In addition to excellent letter quality printing and hi-resolution graphics, these printers use type font cartridges and support additional fonts which can be downloaded from diskettes to provide you with essentially unlimited typestyles!

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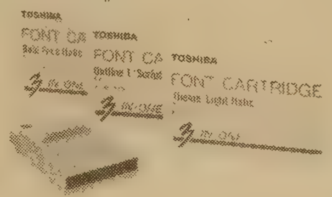
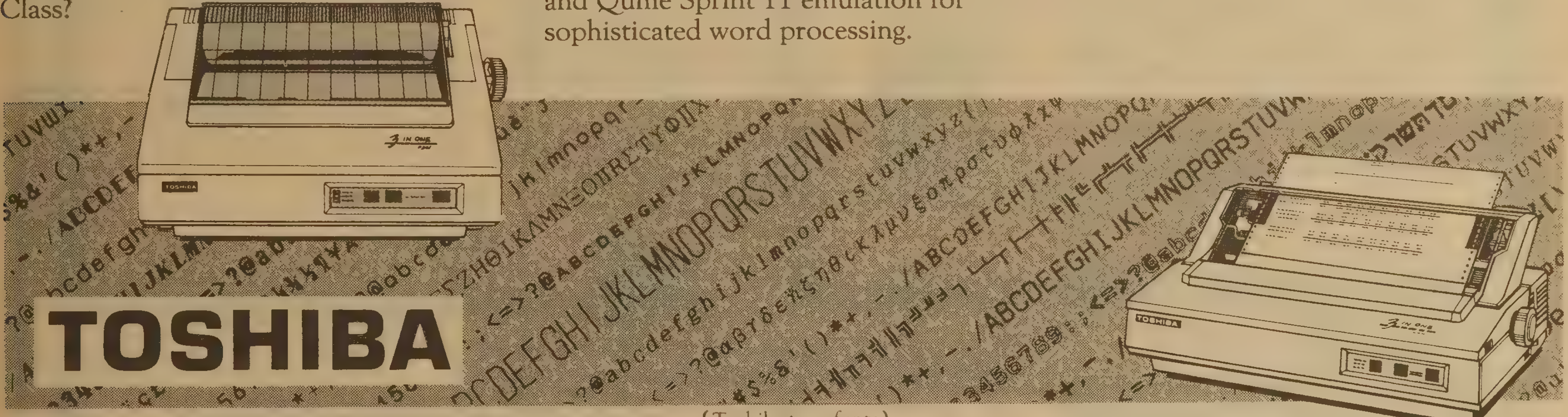
You have to see Toshiba quality to believe it. You will be very pleased at what you'll see!





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San Francisco, CA 94103
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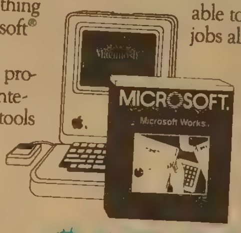

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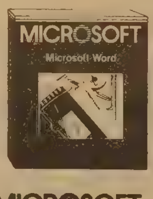

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comprehensive set of text entry and editing tools, an extensive graphics library and precision control of graphics, even to the pixel level. Graphics and text can be placed anywhere on the page and rearranged at any time. The program supports dot matrix, 24 pin printers and laser printers. *Springboard Publisher* will be released during the first quarter of 1987.

ATARI

New From MichTron

MichTron (576 S. Telegraph, Pontiac, MI 48053, 313/334-5700) has announced several new Atari computer products.

The first is *Trivia Challenge*, a game that allows you to dive headlong into a host of categories from the bizarre to the educational. Some of the topics include Pop Music, Sports, the Arts, and General Knowledge. Each question is given three possible answers while you have the opportunity to gamble the $10 allotted to you at the beginning of the game. The faster you answer the question, the more bonus points you receive. But getting the question right is more important than answering quickly. For the Atari ST system. ($39.95)

Mi-Print can print any text file you choose. The program gives you command over paper size, all four margins, headers, page numbers, pitch and line spacing. *Mi-Print* remembers the control codes and automatically sets up the printer to use the selected modes. For the Atari ST. ($29.95)

You can find out where your finances stand and what direction they are taking with *Your Financial Future*, a program that includes a wide range of features needed to successfully control your future. The program lets you determine the long term effects of inflation on your current balance, and the potential income you may receive on interest-bearing investments. The program can also give projected assets based on beginning balances, savings, and yield. For the Atari ST. ($39.95)

For the game enthusiast, there's *Pinball Factory*. Not only can you play a great game of pinball onscreen, you can enjoy hours of pleasure as you design, build and edit your own screens. You can even illustrate your playing board with pictures, arrows, or whatever you like.... the ball will pass right over them. As many as four players can participate. ($39.95)

Lastly, there's *Backup*, a utility that duplicates the contents of your hard disk drive to floppy disks, minimizing the risk of loss. The program also lets you restore the floppy backups to the hard drive after an accident. The program's specialized routines are very fast. For the Atari ST. ($39.95)

COMMODORE/ AMIGA

Two From Abacus

Abacus Software (PO Box 7219, Grand Rapids, MI 49510, 616/241-5510) has introduced a new software package and a new book. The first is *Technical Analysis System 128 (TAS-128)*, a comprehensive charting and analysis package for stock market investors. *TAS-128* is based on the company's successful *TAS-64*, but has been enhanced to allow the user to automatically update his or her portfolio through Dow Jones News/Retrieval Service or Warner Computer Service. ($59.95)

The company's latest book is *GEOS-Inside And Out*. This book, the first available for GEOS, describes the system for both the new and the experienced user. ($19.95)

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Aegis Draw Plus

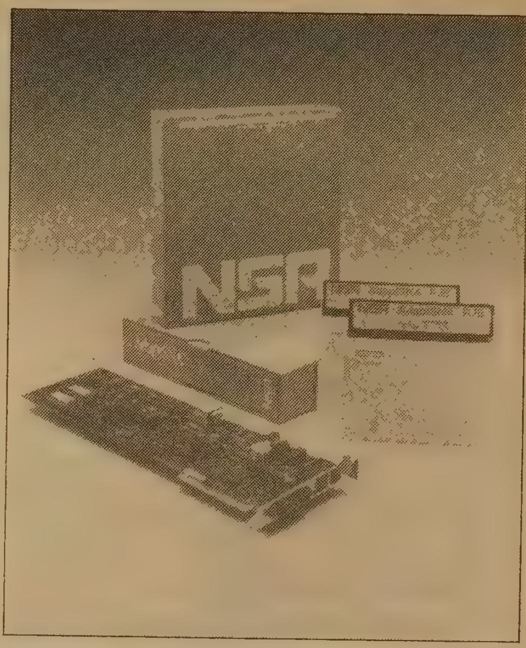
Aegis Development, Inc. (2210 Wilshire Blvd. #277, Santa Monica, CA 90403, 213/306-0735) has announced plans to release *Aegis Draw Plus*, a new CAD package for the Commodore Amiga computer. This program allows up to six independent drawings of 256 layers, each to be worked on using a basic 512K Amiga, although a megabyte of RAM is recommended. Full 16-color capability is available, and drawings may be saved in the Amiga's standard IFF file format for use in other programs such as *Aegis Images*, *Graphicraft* and *Deluxe Paint* paint programs. ($259.95)

Deluxe Paint II

Electronic Arts (1820 Gateway Dr., San Mateo, CA 94404, 415/571-7171) has released *DeluxePaint II* for the Amiga computer. This improved graphics tool introduces over 50 new effects, featuring the ability to create perspective effects, stenciling, fixed backgrounds, gradient fills and pattern fills. The Toolbox contains ten built-in brushes, and you also have the ability to rotate ellipses before placement. Artists can mix to their own specifications any of the colors in the palette of 4,096 and control the percentages of red, green and blue as well as hue, saturation and value. ($130)

Deluxe Music Construction Set

Electronic Arts (1820 Gateway Dr., San Mateo, CA 94404, 415/571-7171) has released *Deluxe Music Construction Set* for the Amiga. This Amiga version of *DMCS* turns the computer into a desktop-based professional music studio. The program provides users with complete input, editing and notation tools for quick and simple composing. A Score Window, featuring a work staff, is where music is entered, edited and reviewed. Cut and paste options are prominent in *DMCS*, giving users the ability to move single notes or whole chords from one location to another, both horizontally and vertically. You can also transpose your score up or down with just the click of the mouse. The program includes a selection of digitized instruments and also supports MIDI keyboard performance. ($99.95)



RJE/Background allows efficient micro-to-mainframe communications without tying up the PC.

RJE/Background

Network Software Associates, Inc. (22982 Mill Creek, Laguna Hills, CA 92653, 714/768-4013) has announced a new communications software product that allows Remote Job Entry (RJE) PC-to-mainframe communications and file transfer in background mode on IBM micros or compatibles, while another PC-DOS application runs concurrently in the foreground. The product is called *RJE/Background* and allows the PC user to connect with a remote mainframe and then continue using his or her PC for other purposes. ($785)

IBM AND COMPATIBLE

MagicFont

Computer EdiType Systems (509 Cathedral Parkway, Ste. 10A, New York, NY 10025, 212/222-8148) has introduced *MagicFont*, a new font-generation program that allows anyone to design fonts and symbols to suit his or her own individual taste. With *MagicFont* and their own word processing system, users can create special symbols on the fly. The program includes easy-to-use templates, so users can create and edit fonts and symbols by simply filling in the blanks. *MagicFont* converts user-created symbols into downloadable fonts for HP LaserJet Plus-compatible laser printers, and the fonts can be used with any application program that uses soft fonts. ($59)

Visual Forms

DeereSoft, Inc. (P.O. Box 1360, Melbourne, FL 32902, 305/768-2477) has introduced *Visual Forms*, a program for PC users that allows you to create quality, customized forms for output to dot matrix, daisy wheel or laser printers. *Visual Forms* provides varied features which enhance its ease of use. Standard, legal or custom form sizes, automatic line and box drawing, copy justification, automatic underlining of text or spaces, cut and paste with trial positioning, shading,

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patterning and automatic checkoff box are just a few of this program's features. ($89.95)

Color Magic

Lifetree Software Inc. (411 Pacific St., Monterey, CA 93940, 408/373-4718) has introduced *Color Magic*, which allows you to add color to the application programs you use on a daily basis. You can match your video display to your mood, your decor, even the color of your favorite jewelry or tie. *ColorMagic* works with an EGA board and provides a number of predefined palettes, many of which are based on the ergonomic benefits of green or amber for optimal readability and reduction of eyestrain. The program is completely interactive and provides context-sensitive online help. The program is also compatible with *TopView*. ($39)

RUMORS

■ Hayes isn't the only company now throwing charges and banging desks and threatening people for copyright violations in telecommunication technology. Now, US Robotics has decided to take on both Hayes and Bizcomp and has filed a restraint of trade suit against both companies. Punitive damages of around $5 million are being sought by US Robotics.

■ The Hyundai car has made quite an impact on the car-buying consumer. Now, their computer division has purchased a minority interest in Blue Chip Electronics, based in Chandler, AZ. It appears as though the South Korean firm is planning to make additional moves into the distribution side of the business as well as the OEM arena.

■ Predictions for IBM products to see the light of day in '87? They range all the way from a much better Token Ring network to a 386-based microcomputer (probably more aptly termed a microworkstation), a low-end PC packed with as much as 1 MB of RAM and CGA built into the motherboard and sporting an 8086 CPU, a new AT system that hums along at 10 MHz with a built-in 3.5-inch drive.

■ Those in the know are all predicting a Proprietized Big Blue, as IBM is reputedly tired of the gains made by other companies copying what they've already produced. Expect to see units that are packed with the necessary equipment, including communications and printer ports, with one operating system that'll range through all of the IBM products.

■ If you're into desktop publishing with IBMs and compatibles, but are more than somewhat frustrated over the variety of file formats for clip art and other graphic elements, the answer may soon be on the way. From a company called PC Quik Art in Georgia, a new two-way file transfer utility will be available that will enable you to bi-directionally convert files from and to: *PC Paintbrush*, *PC Paint Plus*, *GEM Paint*, *MS Windows Paint*, *EGA Paint*, *Dr.Halo DPE* and BLOAD format files. Plus, the conversion will also transfer files from IBM format into Macintosh format, and Macintosh to IBM formats! So, you could take a 72 dpi file created with *MacPaint* and convert it to IBM format at 300 dpi! Way to go, PC Quik Art!

■ For PC desktop publishers, keep an eye out for the next *ScenicWriter* version from ScenicSoft, Inc. (Edmonds, WA). The new version has a 60-day, money back guarantee and will support the Ricoh LP4080 and Xerox 4045 printers.

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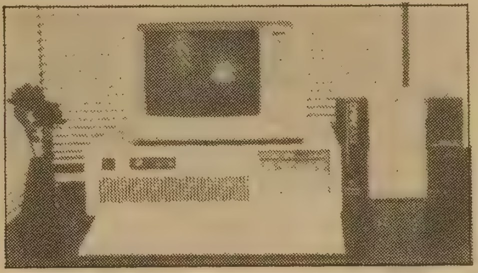

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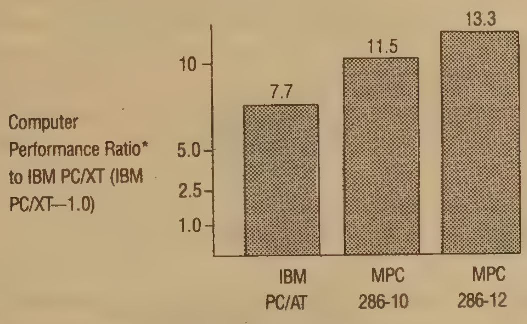
Today computer manufacturers are so preoccupied with meeting the "standards," they overlooked the opportunity to go beyond the "standards."

PC-TECH's MPC (Multi Purpose Computer) 286-10 6/10 Mhz AT Compatible with lots of horse power under the hood. The MPC-286-10 is powered by Intel's 80286-10 Processor with 0/1 wait state and a socket for 80287-10 Math Co-Processor, when compared to IBM AT or Compaq 286 the MPC-286 system generates your CAD drawing in half the time.



*Based on the Norton Utility SI-System Information Command

Option I/0 device. Most companies charge more for them. PC-TECH believes a CAD workstation needs at least 4 serial ports and 1 parallel port for printer, plotter, modem, and digitizer. So we designed 4 serial and 1 parallel ports on the CPU. MPC-286 CPU has only 36 chip against IBM's 131 chip, which generates less heat, greater reliability and years of trouble free performance.

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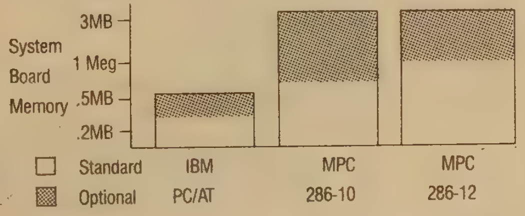
	$4895	**$1995**	**$2295**

MPC-286 (Multi Purpose Computer) comes in three different models as turnkey CAD workstation. It's based on Autocad (The industry premiere CAD software) MPC-286 PRO, MPC-286 EGA, and MPC-286 Mono. Each station is based with MPC-286-10 AT Compatible computer, 80287 math chip. 4 serial, 1 parallel port, clock/calendar and 1024k on the CPU, a 1.2 mb floppy drive, 32 mb hard disk w/28 ms access time and 101 key keytronics keyboard w/12 function keys. One year warranty parts & labor.



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Lotus Freelance Maps

Lotus Development Corp. (55 Cambridge Parkway, Cambridge, MA 02142, 617/577-8500) has announced the shipment of *Lotus Freelance Maps*, a collection of companion map sets designed specifically for use with *Lotus Freelance Plus*. There are five individual sets: Continents and Countries; U.S. Counties; U.S. 3-Digit Zip Codes; U.S. Major Cities and MSAs; and U.S. Complete Set, which includes all of the listed sets plus Congressional Districts. Each map set provides the user with a variety of map boundaries and labels. The price for the complete set is $395, with individual sets priced at $145 each.

FastTrax

Mark Elfield & Assoc., Inc. (4206 Terrace St., Oakland, CA, 94611, 415/652-2231) has introduced *FastTrax*, a disk optimizing program that reconstitutes fragmented files on diskettes and hard disks, including hard disks with DOS partitions larger than 32 MB. *FastTrax* improves drive performance and drive life by reducing disk seeks. Unlike other disk optimizers, *FastTrax* places most files within disk cylinder boundaries, eliminating track-to-track seeks when accessing these files. The user may assign frequently-used files near the DOS File Allocation Table and relegate rarely-used files away from this table. The program also offers a visual report that shows fragmented disk areas along with other useful file statistics. ($39.95)

Windows Clip Art Collection 1.1

Micrografx, Inc. (1820 N. Greenville Ave., Richardson, TX 75081, 214/234-1769) has recently introduced the *Windows Clip Art Collection Version 1.1.* This new release improves the quality and quantity of symbols available. There are now over 500 art-quality images from which a user can select. The *Clip Art Collection* is now packaged with *Windows Draw.* Each image was hand-crafted and the collections consist of five diskettes of symbol libraries and artistic images. The images are compatible with *PC PageMaker, Windows Draw* and *In*A*Vision, Windows Write* and *Notepad* and Palantir's *Filer.* The Collection, as a separate entity known as Version 2.0, is available for $99.95.

Software Bridge 2.0

Systems Compatibility Corp. (One East Wacker Dr., Chicago, IL 60601, 312/329-0700) has announced *Software Bridge*, version 2.0. The new version allows file conversions among nine popular word processing packages: *DisplayWrite 3, Microsoft Word, MultiMate, Samna, Volkswriter, Wang PC, WordMARC, WordPerfect* and *WordStar. Software Bridge* allows users to convert document files to and from various word processing formats. Converted documents retain the function and format codes which are normally deleted by ASCII transfers. An editable, mirror-image document is produced which is fully compatible with the target package specified. As many as 99 documents can be processed automatically. ($149)

PageWriter 2.1b

The 'Puter Group (1717 W. Beltline Hwy., Madison, WI 53713, 608/273-1803) has released version 2.1b of *PageWriter*, an IBM micro and compatible typesetting system with preview that outputs to laser printers and typesetters. The program now includes user definable keys and a "counting" text editor with automatic justification and hyphenation, including expandable word exception dictionary. Kerning and other typographical refinements are standard. The program comes with a user's manual that contains more than 60 examples and a 90-minute video training tape. A 30-minute demo video tape is available for a refundable $15. The price of the program is $295.

XyWrite 3.1

XyQuest, Inc. (PO Box 372, Bedford, MA 01730, 617/275-4439) is now shipping *XyWrite*, version 3.1, which offers several new features. The program now has up to nine windows, with the user able to define each window size. There are newspaper-like snaking columns. Auto-hyphenation and micro-justification are also supported. The new version also includes variable vertical spacing and many powerful file management and text handling features.

NETWORKING/ COMMUNICATIONS

PC MacBridge/AFP

Tangent Technologies (5720 Peachtree Prkwy, Norcross, GA 30092, 404/662-0366) has announced *PC MacBridge/AFP.* This is IBM PC software for file serving over AppleTalk LANs. The software comes in both Client and Server modules. The AppleTalk Filing Protocol (AFP) is a high level protocol layer of AppleTalk, and by adopting this standard, the PC MacBridge/AFP Client Module will be compatible with all AFP servers expected to be released by other major vendors, as well as Tangent's own model. The IBM will be able to use these files servers, making database files or spreadsheets accessible to both the PC and the Macintosh. ($150 per client). The Server Module can act as a server to both the IBM PC and the Macintosh and will also serve as a PostScript print spooler ($500 per server).

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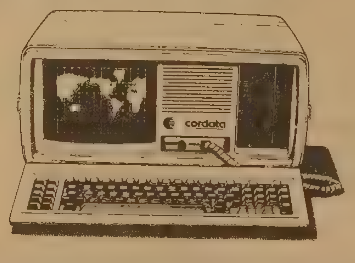
HARD BARGAIN.



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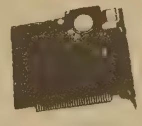

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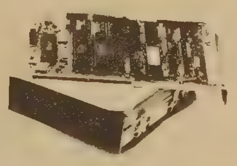

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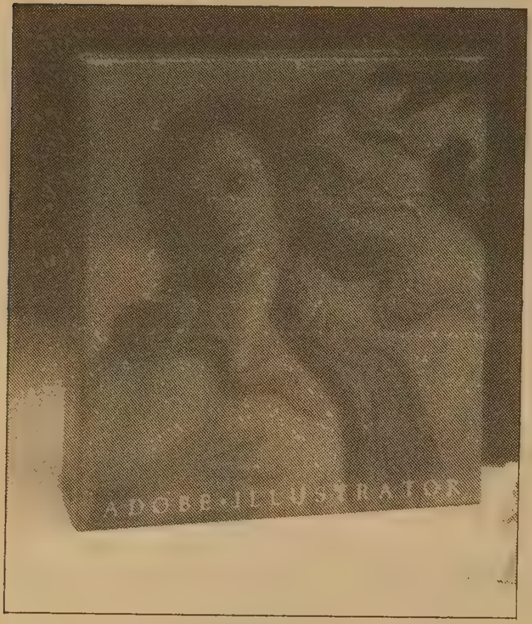


Adobe Illustrator and Type Library

Adobe Systems Inc. (1870 Embarcadero Rd., Palo Alto, CA 94303, 415/852-0271) has introduced *Adobe Illustrator,* an art production tool for producing high quality line art and illustrations. The *Adobe Illustrator* is based on PostScript and uses precise curves and lines to describe drawings. The user can create new illustrations or "trace" existing artwork, add captions, then modify the artwork in an endless number of ways. The final product is professional quality line art and illustrations that can be used on their own or placed into other documents and printed on any PostScript printer. ($495)

The company has also announced the availability of additional downloadable fonts from the Adobe Type Library. The typeface families now available with this new release include Century Old Style in two weights with italic, ITC Franklin Gothic in three weights with italic, ITC Cheltenham in two weights with italic, Park Avenue, Bodoni in three weights with italic, Letter gothic in two weights with italic, Prestige Elite in two weights with italic and Orator in one weight with italic.

FONTastic Plus

Altsys Corp. (720 Avenue F, Ste. 108, Plano, TX 75074, 214/424-4888) has unveiled *FONTastic Plus* for the Mac. This program improves the appearance of screen fonts and ImageWriter produced documents by making many of the professional typographic and logo-design capabilities of their Fontographer version 2 available to ImageWriter users. The program introduces such features as kerning, fractional character spacing, scanned-in logos, keyboard-assignable special characters and logos, and large type faces to the ImageWriter for the first time. The program will be available February 1, 1987. ($79.95)

MacSMARTS

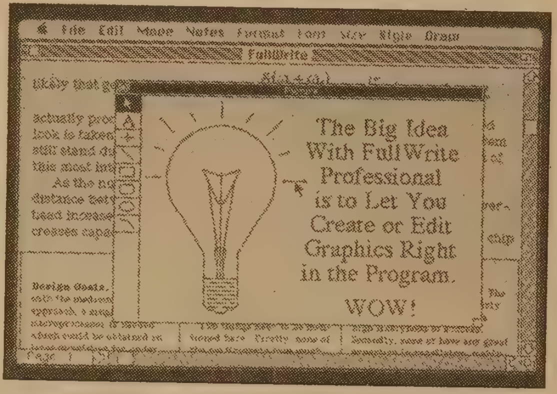
Cognition Technology (55 Wheeler St., Cambridge, MA 02138, 617/492-0246) has introduced *MacSMARTS,* an artificial intelligence program that allows users to diagram their ideas and clarify their decision making. The program's features include a spreadsheet-like interface that uses "fill-in-the-blank" forms instead of requiring users to develop rules with complex programming languages; the ability to "learn" from examples how an expert makes decisions; ability to link *MacPaint* graphics, text, spreadsheet, database and other knowledge bases; automatic diagramming of a knowledge base for clarifying and communicating knowledge. The program can handle up to 4000 rules per knowledge base and 1000 examples per rule. ($99)

MacC Jr.

Consulair Corp. (140 Campo Dr., Portola Valley, CA, 94025, 415/851-3272) has introduced *MacC Jr.,* an introductory C language development system that offers everyone who wants to learn to program on the Mac a chance to develop real applications. The program comes complete with ten example programs and is a complete Kernighan and Ritchie implemention of C including the fastest IEEE/Apple SANE 80 bit floating point, 32 bit integers, 7 register variables, an extensive standard C and Macintosh support library, Pascal function calls for easy interface to ROM, and enhanced symbolic debugging capability. ($79.95)

FullWrite Professional

Ann Arbor Softworks, Inc. (2393 Teller Rd., Ste. 106, Newbury Park, CA 91320, 805/375-1467) has debuted *FullWrite,* an advanced third generation word processor for the Macintosh. *FullWrite* combines power word processing and desktop publishing capabilities in a completely WYSIWYG environment, and also includes built-in *MacDraw*-like capabilities. The program's features include: footnotes, endnotes, table of contents and index generation, spelling checking, hyphenation, outlining, style sheets, multiple documents, and a browser. The program is scheduled for release in the second quarter of 1987.



The Big Idea
With FullWrite
Professional
is to Let You
Create or Edit
Graphics Right
in the Program.
WOW!

The SpeedDisk System

MicroSPARC Inc. (45 Winthrop St., Concord, MA 01742, 617/371-1660) has introduced *The SpeedDisk System,* which creates simulated disk drives in Mac memory called SpeedDisks. SpeedDisks operate just like normal floppy disks, except that programs stored on them run up to ten times faster. The SpeedDisk system lets the user "supercharge" application programs. Using four easy steps, an application program can be configured on a SpeedDisk and saved. A special SpeedDisk icon appears that can be saved to a floppy or a hard disk. Thereafter, a double-click of the mouse opens the applications, which run at top speed. ($29.95)

McMax

Nantucket Corp. (12555 Jefferson Blvd., Ste. 300, Los Angeles, CA 90066) has announced *McMax,* a relational database management system for the Mac. This offering is fully *dBASE* compatible and includes a programming language which allows users to develop applications in either *McMax* or *dBASE* and run them interchangeably on either a Mac or PC without rewriting. *McMax* can create databases, manipulate structured data from multiple files and produce customized reports. The system handles database files up to 63 MB and files up to 16 million records. Each database file can have seven active index files and as many as 100 index expressions. Ten separate database files can be open simultaneously for merging of data from different files. ($295)

SuperLaserSpool

SuperMac Software (PO Box 390725, Mountain View, CA 94039, 415/964-9694) has introduced *SuperLaserSpool,* a LaserWriter print spooling utility. When printing an *Excel* spreadsheet, the product returns control of the Mac to the user in ten seconds. The offering achieves its speed through an intelligent background processing program that manages the entire printing process, which means the conversation between the Mac and the LaserWriter takes place invisibly instead of while the user waits. ($149.95 single user, $395 for multi-user version)

New Excel Templates

Heizer Software (5120 Coral Ct., Concord, CA 94521, 415/827-9013) has released four collections of templates that are compatible with Microsoft *Excel.* The templates include: Introductory Tutorials, Advanced Tutorials, Utilities and Personal Resources. Each set has at least ten programs geared to specific areas of *Excel* owners' needs. ($50 for each collection)

Multi-User Appointment Diary

Imagine Software (19 Bolinas Rd., Fairfax, CA 94930, 415/453-3944) has released *Multi-User Appointment Diary* with *Smart Alarms,* a networking version of the *Smart Alarms* desk accessory for the Mac. This scheduling and reminder system allows everyone on an AppleTalk network to write to, and/or view, the schedule for anyone else in the office, as well as a set of personalized screen reminders. Up to 22 users can be listed on the menu at one time, and additional groups of 22 can be added to any other available volume. ($149.95 plus $10 per node)

Nutri-Calc Plus

CAMDE Corp. (4435 S. Rural Rd., Ste. 331, Tempe, AZ 85282, 602/821-2310) has introduced *Nutri-Calc Plus,* a nutritional analysis product for use on the Macintosh. This program is intended for use by dietitians, nutritionists, and physicians, and can also be used by individuals interested in taking active steps to improve their diet. This program is a flexible system that allows diets to be analyzed quickly and efficiently. *Nutri-Calc Plus* compares the nutrients in a diet to the most recent government guidelines (RDAs). The program also allows alternate guidelines to be set for each patient, or individual, if desired. Analyses can be done for a week, or on a daily basis. The program includes a food database of over 1,500 foods and a larger, optional database of 3-4,000 foods will be offered later this year. ($225)

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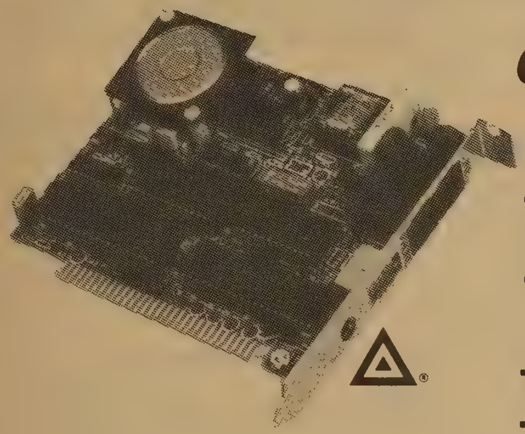

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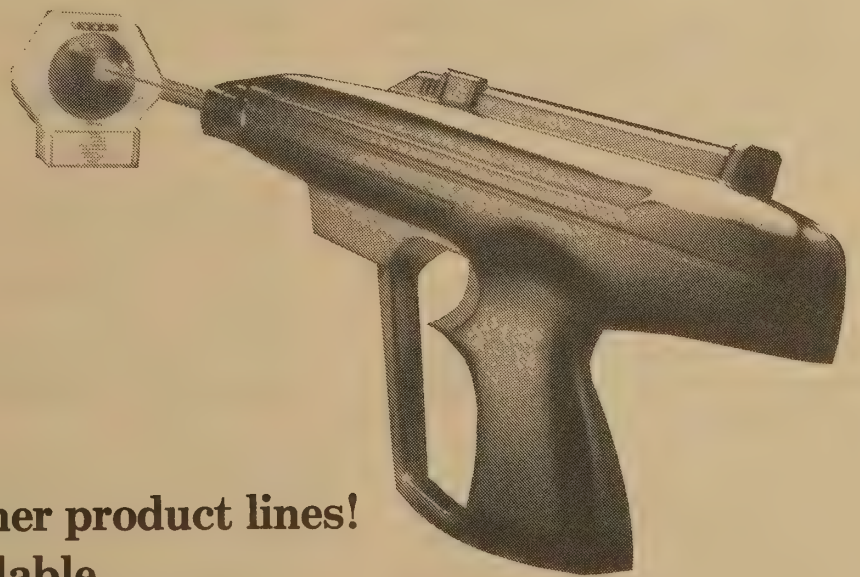

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Computerizing Your Business

. . . a buyers' guide for businesses and professionals

▨ Analyze Your Needs

When Julian Systems is approached to develop a business computer system, our first question is, "What do you need your system to do?" You can prepare in advance for this all-important question by examining the way that your business works.

Ask yourself a few questions:

- What are the major tasks that keep your business running?
- Of these, which would benefit from automation?
- How many individuals are involved in these tasks?
- What information do they need to share?
- What does each need to do individually?
- Do you need telecommunications?
- What computer systems are your employees familiar with or attracted to?

The answers to questions like these will provide important clues in determining the right combination of hardware and software, to maximize the effectiveness of your investment.

▨ Select Your Supplier With Care

In most cases, the key to successful computerization lies not in the hardware, but in the supplier.

To get the most out of your computer system, you need expert consultation from the very beginning. Your supplier should be able — and willing — to spend the time necessary to customize the system for your business.

An effective and knowledgeable consultant can help you select the best software, steering you clear of products with functional limitations and "bugs" while assuring full compatibility. And he or she should either know your business, or be willing to take the time to learn.

Look for a supplier who can be the single source for all the components of your system. This will not only simplify the ordering and installation process. It will also make it easier for you to build a relationship with your supplier. And you'll have only one person to call when you need help.

Most importantly, look at your potential supplier's track record. Request two or more references, and call them. Make certain that the supplier has dealt fairly in the past, and has supported his products effectively. Every business computer system — no matter how simple — will require support. And every business client deserves it.

▨ Consider Leasing

Cashflow management is one of the primary cornerstones of a successful business. And one of the best ways of making capital expenditures while keeping cashflow in line is leasing.

A well-structured lease-to-own plan will allow you to:

- Meet budget goals
- Conserve capital and credit
- Obtain a manageable, fixed monthly payment
- Avoid restrictive covenants
- Generate a return on freed capital

For example, consider Julian Business Credit — a leasing plan that Julian Systems has developed in response to the needs of our business clients. Under the Julian Business Credit plan, our clients receive:

- 24-hour approval
- Automatic approval for 125% of the amount financed, to allow for system upgrades
- Up to three (3) payments deferred with no penalty (financing charges may apply, however)
- One year of guaranteed carry-in service

And Julian now offers business and professional clients cash rebates of up to $2,000 on lease purchases. That means no money down in most cases. In the case of larger systems, the rebate covers up to three payments.

It doesn't take much imagination to see how a leasing plan like this can allow you to make capital purchases while keeping your cashflow picture bright.

▨ Service Contracts

Business computer systems see daily, full-time use. And if your system should fail, it could seriously hamper your ability to do business. So, no matter what computer system you select — or how reliable it may be — be certain that your supplier can offer you a service plan that fulfills your needs.

After all, most computer industry warranties end after the first 90 days. From there on, you're on your own. And computer repairs can be expensive. The cost of a service contract, by comparison, can be pennies.

At Julian Systems, we've developed a unique service plan for our business clients, called *Julian*Care™. It's reasonably priced, and it offers coverage that no other computer supplier can equal.

*Julian*Care is available in three levels of coverage. The most basic plan, Carry In Service, provides for repair and/or replacement of the covered equipment, including labor — but the customer must bring the machine to us. This plan is often sufficient for sole proprietorships.

The next level, On Site Service, provides for a technician to attempt repair at the client's premises. Since many apparent computer malfunctions are actually software problems — or simple things like dirty disk drive heads and faulty cables — they can be taken care of in a single visit, with minimal down time.

The highest level of *Julian*Care couples On Site Service with our Replacement Option, providing for temporary replacement of equipment while it is being repaired. Since no business can easily afford to be crippled for days by a computer failure, most of our clients choose the full *Julian*Care coverage plan.

When shopping for service contracts, compare carefully and be sure that you can get this level of support. Only then will you be assured of smooth, trouble-free computerization of your business operations.

A Word About Price

Every business person wants to make the best use of capital, and naturally wants the best value for expenditures. In judging where and when to make purchases, price is an important consideration.

But it is not the only consideration. Time and again, we have seen businesses seduced by price-cutting, only to find that the supplier who offers the most amazing deal doesn't exactly offer the most amazing support. Many of these businesses are now our clients.

At Julian Systems, it is our policy to ask a fair price for products and services. And provide full support for every system that we sell. Because that's how we believe the business of business computing should be done.

When it's time to computerize your business, weigh all the factors carefully. Ask questions. And shop for support as well as price. In the end, the effort will more than pay for itself.

About Julian Systems

Julian Systems was formed to fill the gap between the retailer and the mainframe computer supplier. We offer a full range of services to business computing clients, including:

- Turnkey business systems
- Custom programming
- Network design and installation
- Training and system support
- Custom PostScript™ graphics
- Business financing plans
- Full service contracts

At the heart of our systems is the Apple Macintosh, a computer more powerful than mainframes of only a decade ago. Starting from this powerful base, we can custom design a wide variety of business computer systems to meet every need, from Desktop Publishing to Telemarketing. Our installations typically include a number of networked computers, laser and dot matrix printers, and a system of both off-the-shelf and custom software tailored to the application.

Our staff is composed of programmers, engineers, graphic designers and telemarketing professionals. All are experts in computer applications within their respective fields. And each is trained to offer support and consultation to our clients. Our staff can guide you through the initial learning process, then remain on call to help as you explore your system's power and potential. We make it a practice to keep our clients informed of the latest software and hardware innovations.

Julian Systems is also an Authorized Apple® VAR (Value Added Reseller), and we manufacture a range of OEM enhancement products for the Macintosh computer. This puts us in a unique position to develop custom hardware, should a specific application require it.

In Julian Systems you will find a complete solution to your business automation needs. A single source supplier for both hardware and software. Knowledgeable professionals to assist you in selecting a system, and train you to use it. And full support, well after the initial sale. Our offices in Concord, San Rafael and Los Angeles stand ready to serve you.

For Further Information:

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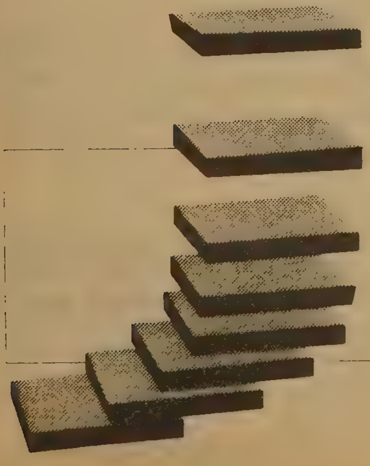

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The Programmer's Tale

As Told By Hartley and Patricia Lesser

Come with us now to the lair of Interplay Productions, where creations like The Bard's Tale periodically rise from the murky shadows. . . .

"This is Dungeons and Dragons on the computer," says Brian Fargo, the 23-year-old president of Interplay Productions. "I mean, this is fantasy role-playing, on a computer, with real graphics and real music."

Fargo is demonstrating the new Amiga version of *The Bard's Tale* from Electronic Arts. The game, originally released in a version for Apple II and subsequently rewritten for other machines, is Interplay's creation. While it's not uncommon for a program to be hastily ported to new machines without much thought being given to exploiting the machines' particular features, such is not the case with Interplay. The Amiga version of *The Bard's Tale* is an impressive demonstration not just of the Amiga's own power but of the ability of clever programmers to make the most of it. Further, Interplay's latest effort, *Bard's Tale II: The Destiny Knight* on the Commodore 64/128, achieves a degree of sophistication and complexity that's incredible on an 8-bit machine.

The intrepid crew of Interplay Productions. Front row (l-r): Jay Patel, Troy Miles, president Brian Fargo, Alan Pavlish. Back row: Todd Canasta, vice president Troy Worrell, Bill Heineman.

Interplay consists of eight people, none of whom is older than 25. All of them are enthusiastic devotees of recreational software, and all of them are obsessed with product quality. And, notwithstanding their youth, they're veterans. Says Fargo, "I started right out of high school, with a company called Sabre Software. I used to spend all my time in front of my computer, nearly 16 hours a day. And I used to think, 'I can do better than this!' when I looked at several programs."

So he put his theory to the test. "On my first program, I completed everything myself, from the artwork to the manufacturing, including the copyrighting work. This went on for about a year." Then some Stanford graduate students he knew started a company in Southern California called Boone Company, and made Fargo vice president of product development.

"They sort of put me away in a hole and let me hire two programmers and we just started turning programs out. I was basically doing conversions stuff for K-Tel and other people. This continued for about a year and then the company investors started getting mad at the owners. There was a lot of bad blood, and I decided that that was not what business is all about. It's supposed to be fun, you know. Forget it otherwise.

"So I broke out of there and started Interplay. We started with two of the guys from Boone and began doing conversion work, educational stuff for companies like World Book Encyclopedia. We did work for the military, stuff for McGraw Hill—we did anything we could do. We didn't have the pleasure of creating our own software because we were unproven back then. So, we had to do other peoples' work and just kept our ideas in the back of our minds.

"Finally, we got a break from Activision, after about a year into our new venture. We did two products, *MindShadow* and *Tracer Sanction*. *MindShadow* took off and did real well, and that was when we started rolling off into more things. Finally, we did *Bard's Tale* with Electronic Arts.

"We always wanted to do a fantasy role playing game," says inveterate gamer Fargo. "Of course, we've all played *Wizardry* and thought it was a fantastic product and enjoyed it. But I always thought that more should be done in a lot of areas with the game. *Wizardry* is written in Pascal, which is slow and cumbersome and graphically not very exciting. So we wanted to do better graphics and sound. And being that we could do it in a 6502 computer environment, we've got more flexibility all the way around with the system itself. We always wanted to do a fantasy role-playing game that pushed the system to its limits."

The creation of *The Bard's Tale* involved more than a fondness for sophisticated games, however. Ingenious programming stretched the capabilities of the venerable Apple II and its 6502 chip. The same passion for efficiency is evidenced by the subsequent versions as well. "All programs are in C and Assembly," says Fargo. "All of the programs for the 6502 machines are 100% Assembly. The 8088 machine and 68000 machines are, for the most part, written in C, with Assembly routines for doing some of the high speed graphics, sound, things of that nature."

Further, the type of programming skill that produces works like *The Bard's Tale* is an elusive commodity. "I don't meet a lot of people that are real competent when it comes to programming," says Fargo. "Programming requires a different skill set that you don't necessarily learn in college. A computer science degree is not necessarily the skill set that you need to do this sort of creative work."

Writing and marketing a successful game is a complex undertaking. "We have one guy who's our main programmer," explains Fargo. "He's like our star. Everything centers around him, and he has the main vision of what the product is going to look like. Our star for *Bard's Tale II* happens to be Michael Cranford, who also programmed *Bard's Tale I*. The producer of the game is Electronic Arts, where we have our liaison, and I'm like the director of the program. I coordinate all of the efforts around our programmer, who also has a writer, artists, a sound guy, and a support programmer who does the special routines—a DOS routine, an animation routine. Everything that the company does, we rely on several talented individuals; I know everybody's specialized talents."

The Amiga version of *Bard's Tale* is a veritable tour de force in programming which stretches available resources to the maximum. "We rarely have one sector left on a disk when we're done with a game program," Fargo admits. In this case, Interplay had to deal with the problem of fitting the game on an 800K disk when the graphics code alone was 1.2 megabytes. The graphics code was duly compressed to 600K, leaving Interplay with 200K for the music and program code.

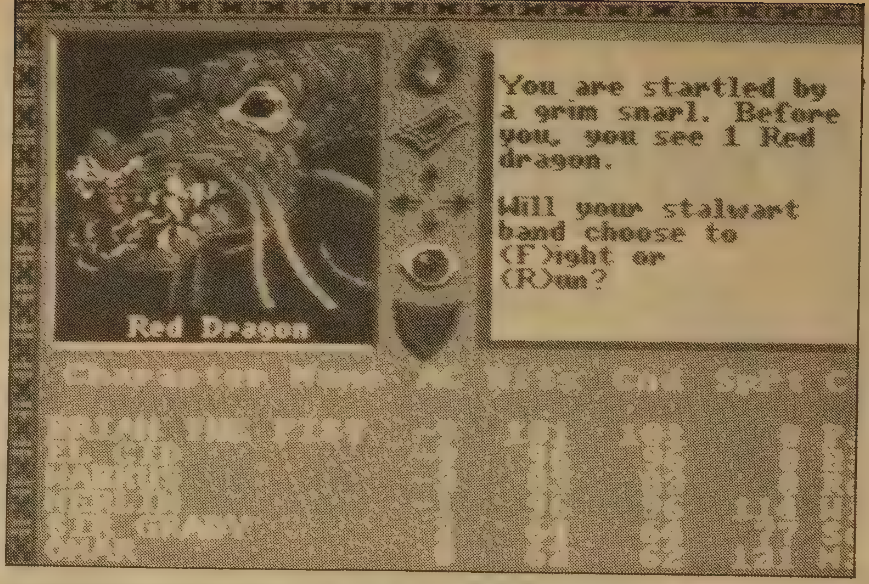
All that code translates into amazing sound and graphics. For example, the Bard himself now plays any of four instruments. When the Bard is playing a harp (animated onscreen to boot), it sounds just like a harp. And should the Bard select a different instrument to play—say a firehorn—the sound is that of a firehorn. "Whenever we do an adaptation of a product to a different machine, we always take full advantage of all of the machine's new features," says Fargo. "There's nothing worse than looking at graphics that look like [8 bit] Apple graphics on a more sophisticated machine. You can see the added detail in this Amiga version—the graphics are phenomenal. The shadows are jumping on the fire and you'll notice that things are differently timed onscreen. The Bard's playing at a different time than the other onscreen activity, plus he's drinking from a tankard. You'll notice that on some systems the onscreen movements all occur at the same time—when an arm is raised, the leg goes up at the same time. With the Amiga, we can use new animation techniques that give us better graphics."

He adds, "We have made this a mouse-intensive product." He clicks the mouse once, and the screen changes instantly from the inn's interior to an outdoor scene.

"Now, let's go to the city. This concept took us eight or nine months of work just to get it right. We think it's OK to take the extra time with a program if it's going to make the product that much better. The care is there, and that's always noticed. We could have done something on the Amiga that would have taken us three months to do, but it would have looked like an [8 bit] Apple product. However, I have to say that the Apple IIGS version looks exactly like this Amiga version..."

The adventuring party heads down the street towards a tavern. As the day gets later and later, the sky begins to turn darker and darker onscreen. Once inside the tavern, we behold an animated dragon's head on the wall.

"See the dragon on the wall? And see that little black dot flying around right above the dragon's nose? Keep an eye on it, watch, it's going to irritate the dragon and then, gulp!" Sure enough, that fly has bothered his last victim. The dragon's mouth partially opens, and the fly is sucked into the beastie's maw, disappearing permanently from the screen. Later on, the party adjourns to a local temple seeking healing for injured party members. Here again, the sound and graphics are excellent. The priests gather to impart their healing graces; their hands move as though casting a spell, and a sort of Gregorian chant fills the room, restoring health to the injured member. Every detail of the game is animated. The adversaries you run into, from the hobbits to the zombies, are all seemingly alive and ready to do battle.



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You are startled by
a grim snarl. Before
you, you see 1 Red
dragon.

Will your stalwart
band choose to
(F)ight or
(R)un?
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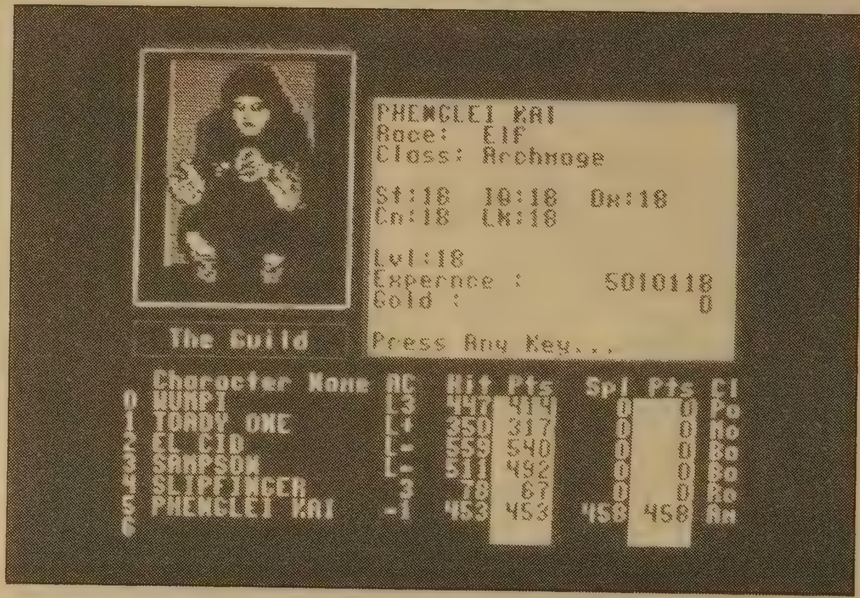

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PHENGLEI KAI
Race:  Elf
Class: Archmage

St:18  IQ:18  Dx:18
Cn:18  Lk:18

Lvl:18
Expernce :      5010118
Gold :                0

Press Any Key...

  Character Name AC  Hit Pts   Spl Pts Cl
0 WUMPI          L3  447  414    0   0 Po
1 TOADY ONE      L+  350  317    0   0 Mo
2 EL CID         L-  559  540    0   0 Bo
3 SAMPSON        L-  511  492    0   0 Bo
4 SLIPFINGER      3   78   67    0   0 Ro
5 PHENGLEI KAI   -1  453  453  458 458 Am
6
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The game also has speed control with the keyboard and mouse. There's a control panel so that you can just use the mouse without ever using the keyboard at all. The mouse can be used for casting spells, party tagging, playing a Bard's tune, finding out where you are in a game, and setting the scroll speed. Expert players can also use the keyboard for all game activities. There are also several new creatures that won't be found in other versions.

Customer feedback plays an important role in the design of Interplay games. As Fargo is the first to admit, "Sometimes I get so in tune with my own product, playing it, that I sit down and have no problem playing the game. But that's because I know everything about the game. We always listen. We get online and discuss our games on bulletin boards and ask what do the people like, what don't they like, because there is a sort of common consciousness among the people who play these games." Many suggestions from users were incorporated into *The Bard's Tale II*. For instance, Fargo says, "You'll find that in *Bard's Tale II*, it's much easier to get your first level party going."

As he boots up the new game on a Commodore 128, we ask why Interplay chose the Commodore as the first operating environment for the sequel adventure. He answers readily, "The Commodore game market is bigger than the Apple market. And we'd just finished *Bard's I* for the Commodore and had all of our tools still set up. So it was more natural to roll right into the sequel and then create the Apple version afterwards."

The new game shows a complexity quite beyond what we're accustomed to seeing on the Commodore. "Instead of one city, *Bard's Tale II* has six, as well as a complete wilderness that you have to navigate. Instead of 16 dungeon levels, there are now 25 dungeon levels. We crammed all this in a C64, but now there is a boot disk, a character disk and two dungeon disks. Plus, we have much better music this time on the Commodore, because we use two voices instead of one."

And while *Bard's Tale I* took a certain amount of criticism for what some found an excessive dependence on hack-and-slash, *Bard's Tale II* is more complicated and subtle. Says Fargo, "We've got ranged combat. Magicians can appear from 40 feet out. So now, bows have been added as weapons and spells all have ranges. For example, a Dragon Breath spell might be good for only 30 feet. If the magicians are standing 40 feet away, it won't do you much good to cast that spell at them! Now you've got all these different strategies and different methods of how to fight an enemy.

"There's not that much disk swapping involved; there's less than on *Bard's Tale I* for the Commodore. This product is much faster, thanks to some advancements we made on the disk I/O. This product has something called 'real time'—if you hit a snare, the program puts a message on screen that says 'Snare number one, your time is set.' Now you've got just five minutes to complete exiting the snare trap before the entire party gets wiped out! Plus, you cannot pause this game.

"You're also working to solve puzzles. The game takes place around a scepter that was broken into seven pieces, with each piece hidden throughout the kingdom. You'd better find every single piece of the scepter, as each portion has its own magical power. When you finally put all of the pieces together, you become the Destiny Knight. This character will be playable in succeeding versions of our products."

What's in the future for Interplay? "We started another role playing game about a year ago called *Wastelands*, which is a post-nuclear war role playing game. We're creating this one on the Apple, as the Apple market is just as important to me as the Commodore market. Basically, *Wastelands* is a cross between *Ultima* and *Bard's Tale*. The game has combat similar to *Bard's Tale*, but it's got strategy as well. You can actually disband your party. You can split them up so that everyone can wander independently of one another.

"The way this game is set up is different than Bard's Tale. If you wanted to shut off combat, you could, and still have a real good time playing the game. The character interaction is much stronger. And we've also got non-player characters who have personalities. They can even join the party of adventurers. Because you can split up the party, everyone may be wandering around by themselves. Or, something might happen, and you find one of your party is gone. You can toggle between views of different party members, which can be really interesting, because if someone's unconscious at another location, he can't see where he is. What's worse is if he becomes conscious again, and you run a view check on him, and he finds himself in a jail cell. He can't leave the jail, and there may be ten monsters waiting for him outside the bars. Your party has to find him. So now they're running around, trying to find the guy in the lockup. This kind of programming opens up more flexibility in the system. Plus it's post nuclear, sort of a 'Mad Max' kind of thing."

The competence shown in these games portends a new era of computer gaming for computerphiles of all ages. This, along with a genuine concern for user feedback that's parlayed into product improvements, makes it highly probable that Brian Fargo and Interplay will be playing a major role in recreational software for years to come. "We've now been in business for three years, and it's wonderful," says Fargo. The next years may be even better. ☐

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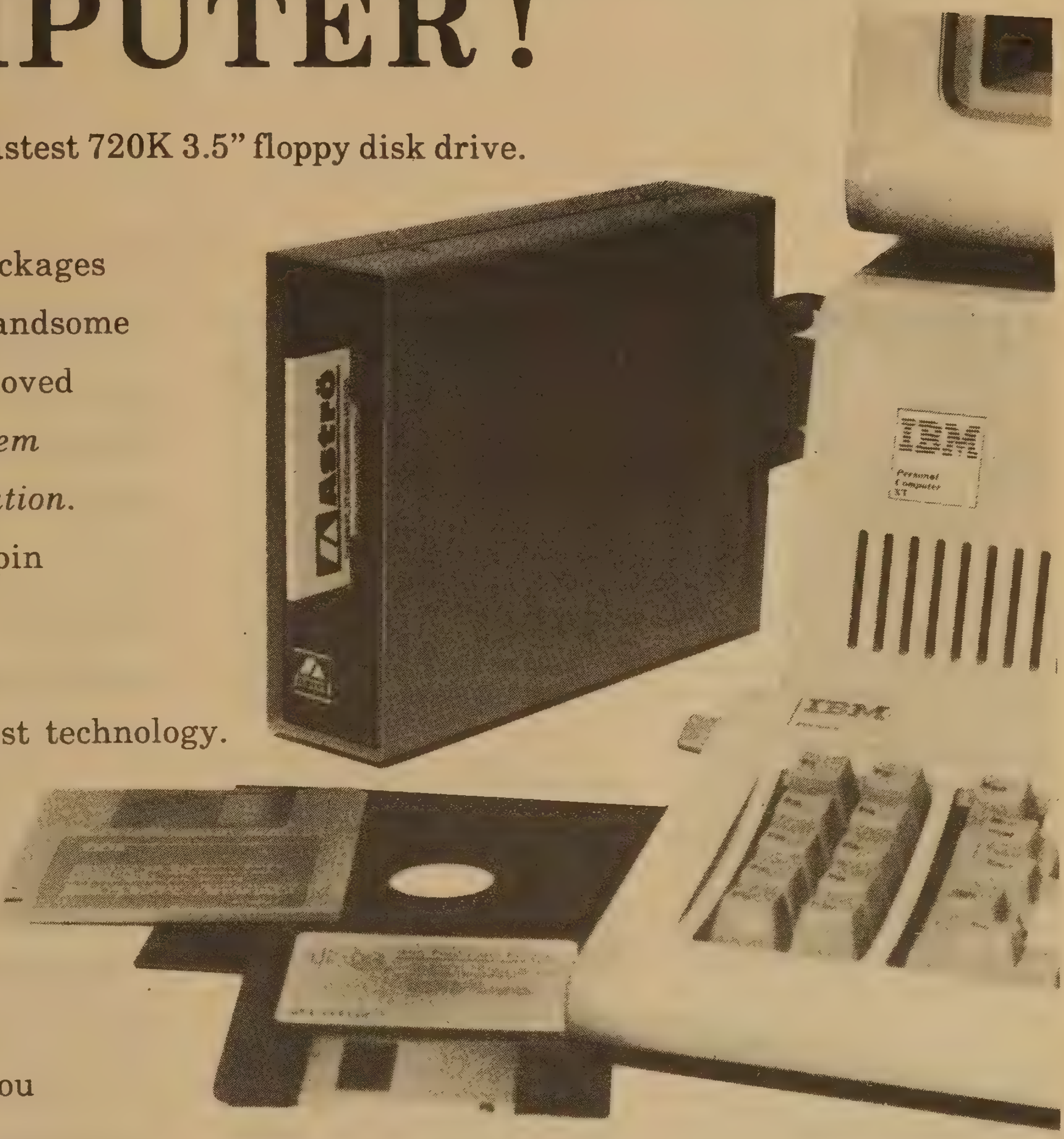

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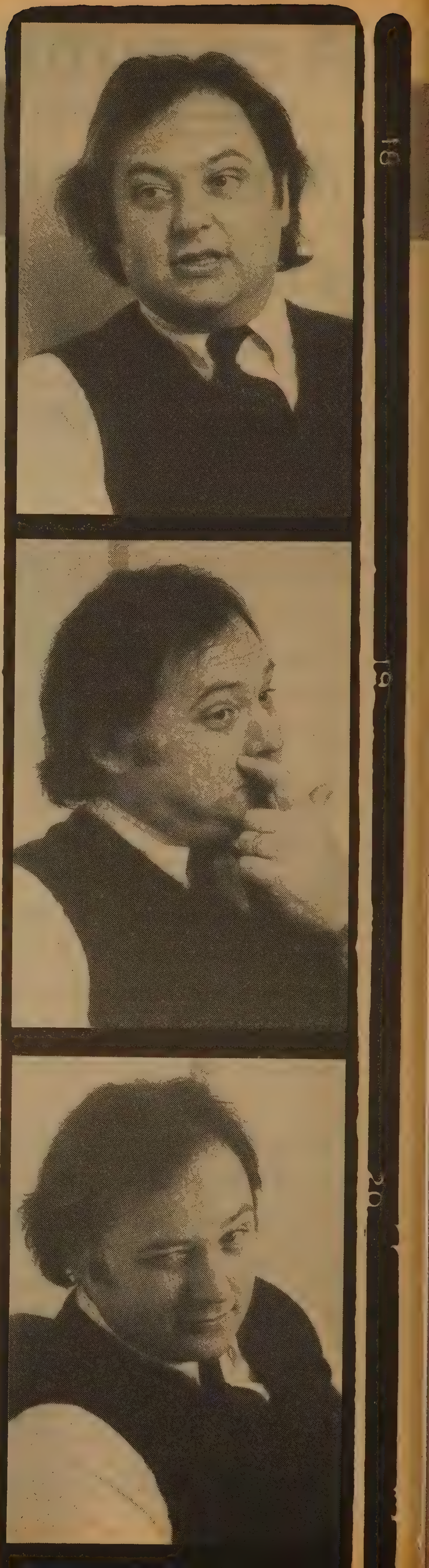
Centram's TOPS



"Our objective in life," says irrepressible Centram founder Nat Goldhaber, "is to try to connect everything to everything." More modestly, he continues, "There are a few instances where we've actually done it."

He demonstrates one such instance by sitting down at his Mac Plus and clicking a few icons on the desktop, thereby accessing a colleague's ITT Xtra and opening a *Lotus 1-2-3* file. The file opens as an *Excel* document on the Mac; Goldhaber makes a few changes and sends the new document back to the ITT, where it ensconces itself as yet another *1-2-3* file.

TOPS, Centram's networking software product, was first released last summer and has already attained an installed base of 15,000 workstations, making it the leading LAN contender in the Macintosh arena. While price ($149 for the Macintosh software-only version, $389 for the card-and-software PC version) is undoubtedly a factor in this success, *TOPS'* most distinctive feature is its provision of transparent, real-time access between computers running incompatible operating systems, using AppleTalk or Ethernet connections. Operators of PCs and Macs can work on the same files, with each operator seeing the data in the local machine's familiar environment. By allowing this linking of incompatible machines, *TOPS* (short for Transcendental Operating System) protects a client's existing hardware/software investment.

There's more. In addition to the Macintosh and PC versions of *TOPS*, the company offers *TOPS Print*, which allows IBM files, including graphics, to be sent directly to Apple LaserWriters and printed. Further, *TOPS* now runs on a variety of UNIX-based machines, allowing these more powerful computers to act as servers on networks with Macs and/or PCs, and there are plans to support various mainframe and mini operating systems in the near future.

TOPS seems to be making Centram a strategic candidate for takeover by larger companies. Late in January, 3Com, a leading network supplier, announced plans to acquire Centram as part of its software division, citing the strategic importance of *TOPS* as an entry-level network product as well as the complementary nature of the two companies' product offerings. A few weeks later, as negotiations with 3Com were resulting in several irreconcilable differences, Centram received and accepted a more lucrative offer from Sun Microsystems, the noted purveyor of UNIX-based workstations for scientific, engineering, and similar environments.

In the midst of all this, Goldhaber took the time to discuss Centram's history, its products and the philosophy from which they evolved.

What led you to start Centram?
Once upon a time a long time ago, Flash [co-founder Michael Pflaumer], our vice president of engineering, and I started a company, the predecessor to this one, to develop a local area network system that hooked together different kinds of computers and let people share data inexpensively. Our first effort was to develop a CP/M based network, because CP/M was the principal operating system in those days, that and Apple II. This was in 1982—it was pre-IBM.

We worked on that for a couple of years. We developed a CP/M based local area networking system; ultimately we licensed it to another company—my former partner became the other company and I licensed the product to him to market to the retail world. It did relatively well when CP/M was still an important operating system.

However, CP/M died rapidly after the PC came out, and in addition to that there was the dramatic rise, upon its release, of the Macintosh. So we reassessed our position and took a look at what opportunities there were, given the new world, and we came to the conclusion that the most interesting thing to do would be to network, not one single kind of computer, but multiple kinds of computers so that they can meaningfully exchange data across operating system boundaries in real time.

"We came to the conclusion that the most interesting thing to do would be to network, not one single kind of computer, but multiple kinds of computers so that they can meaningfully exchange data across operating system boundaries in real time."
—Nat Goldhaber,
Centram Founder

Photos By
Pat
Johnson

—It's All Connected

By Mary Eisenhart

The interesting story is that there were two people who helped us along our way indirectly. One was Tandy, and the other was Hewlett-Packard.

We had been invited to visit with a guy named Steve Leninger, who was the inventor of the Radio Shack Model 1. Radio Shack was just coming out with CP/M computers, drifting away from their TRS-DOS and heading in the direction of CP/M. We went to show him what our CP/M product could do, down in Texas, and he took one look at it and said, "Boy, this is interesting. But it only solves part of my problem. Is there any way you can actually link together all the different operating systems which Tandy sells?..."—which at the time were probably five, and none of them talked to each other.

We had already thought a little bit about the idea of linking CP/M and MS-DOS over our old CP/M network, because MS-DOS was starting to come on at that time. But we'd never thought about linking lots of operating systems together as carefully as we did after Tandy made that suggestion. We went away and we thought about it for awhile, and Flash said, "I think it can be done. I believe that the way to do it is by developing a meta-language or a super-set"—in fact, what it turns out to be is a necessary and sufficient set—"of operating system calls that can easily be mapped into the kinds of operating system calls each supportable operating system has internally." So that "open a file" in TRS-DOS 80 turns into "open a file" in MS-DOS.

We really started to think about that notion, and we reported that it was possible. Unfortunately Steve Leninger didn't stay there very much longer, and there was never an opportunity to do anything with Tandy. But we actually started work on the development of that concept, and I went out and raised money specifically for the development of that concept. We formed Centram Systems West in March of '84.

When we started, it was still our intention to link CP/M and MS-DOS. That was still our first goal. Then we went over to Hewlett-Packard—again, interestingly, to show work that we had done in the past and to suggest work that we might do in the future—and they said, "Forget CP/M—you should see this new Mac that Apple's just come out with."

Hewlett-Packard said that?

Some engineers at Hewlett-Packard said that. Of course they wanted us to link to their minicomputers as well, UNIX operating system and some of their operating systems—but they said the Mac was the new up-and-comer.

So they steered us strongly towards Apple. We went to Apple, we got reasonable levels of cooperation right from the beginning, and soon thereafter great enthusiasm for what we were trying to achieve, and so we put the whole thing together. Mac-PC is our first product—*TOPS* for the Macintosh and *TOPS* for the PC.

What distinguishes your net from anybody else's?

First and foremost, ours goes between operating systems. We are, as far as I know, the only product that can transparently link together different types of machines. So that, to the machine that you're on, the whole world looks like the same type of machine.

So if I opened a *WordStar* file in *MacWrite* on my Mac, it would look like a *MacWrite* file?

That's right, and more importantly, the files that are on the IBM PC look like icons on a desktop. And if I'm on an IBM PC looking at a Mac, it looks like MS-DOS entries, there's no icons.

What we've done, effectively, is fooled the machines into believing that the operating systems of remote machines are precisely the same as the operating system of the local machine.

The three operating systems we currently support are MS-DOS, UNIX, and various flavors of the Macintosh operating system, the old ones and the new ones. We support the Lisa running under *MacWorks*—the MacXL, to be precise. We also support the flat file system—the old MFS system—as well as HFS. So as long as you have a 512K Mac, it works.

Does *TOPS* support *Windows* on the PC?

Yes, with a caveat. The combination of *TOPS* plus Windows takes up a lot of memory. Windows is pretty hoggy, and there isn't a lot left for other stuff.

Are the new 80386-based micros having any major impact on your plans?

Yes. I think the 386 is a very exciting development, as is the 68020. We're seeing real 32-bit architectures emerging now that have multitasking capabilities, among other things, which makes life easier for the network developer than single-threaded operating systems running on non-multitasking machines. Right now we have to do a lot of fancy dancing to make a standard MS-DOS machine operate perfectly as a file server. Now we've *done* that, but we had to turn MS-DOS into a multitasking operating system, essentially, in order to do it. Now that task becomes easier, and in some sense more elegant.

More importantly, however, with the advent of more powerful CPUs, server devices no longer need to be limited to simply file servers. They can start to take on a host of other network services as well, which include of course the obvious ones like electronic mail and modem pooling, but much more importantly, I believe at least, compute servers. What that means is that your local machine can turn to a more powerful server device to actually do some of its number-crunching. That, I think, is the biggest upcoming advantage of the 386 machines, particularly when they're incorporated in specially designed file server devices.

Let me talk to you a little about what that means. There's 5 1/2 million 8/16 bit PCs out there, something like that, all the ones IBM sold, and their clones. And there's, at last count, 800,000 Macintoshes out there. Capability-wise, the CPUs are pretty much on a par with each other—maybe the Mac's a little faster, but it's in the same league. All of a sudden we're taking a quantum leap in capabilities with the 386 and the 68020.

Does that mean that you have to scrap an installed base of 5 1/2 million? Computer manufacturers would like that—they get to sell another computer to everybody—but realistically I don't think the population is going to be very interested in that, particularly since, after all, word processing worked fine on an 8-bit machine, and the difference between the operation of, say, *WordStar* on a Kaypro and *WordStar* on an AT is negligible. Most of the time it's sitting there waiting for your keystrokes. So there's plenty of horsepower, for the most part, in all those computers that are out there.

However, from time to time, you might want to do something that *does* require more horsepower. For example, accumulation of huge databases where it's necessary to sort in a certain way—for example, give me all the dealers who have sold more than three copies of *TOPS* in the last two weeks who are in a ZIP code that starts with a 6. That's a demanding piece of sorting, assuming there were thousands of dealers. We're talking about a lot of raw compute power needed for that, and from time to time that may be more than you want to do on your local machine.

Now if the files are all stored on a central file server, basically what you're talking about is a lot of network-based activity—sending out requests, having your local machine do a lot of sorting, reading files over the network—it's a very network-intensive and CPU-intensive sort of task. The question is, what could you do that would speed up that process? The answer is, with the 386 and the 68020 coming down the street, it's possible to have still-quite-inexpensive file servers that also function as compute servers.

What a compute server would do is basically this. My local machine

> **"What we've done, effectively, is fooled the machines into believing that the operating systems of remote machines are precisely the same as the operating system of the local machine."**

would say to the compute server, this is a task which is sufficiently CPU-intensive that I don't want to do it locally. Do it on my behalf, then pass back the answers. So the request that goes down the wires would be basically database primitives—please sort these records according to these criteria and pass back the answers. The compute server would then actually do that, so the network is not consumed, the speed at which it occurs is greater, and obviously the time involved for the end user is reduced.

This I conceive of as the next generation of network services that are going to make sense in an environment of much more powerful microcomputers. Not everybody in an office has to convert to a more powerful computer. I think this is an ideal situation, and we'd like to think that the way we've structured *TOPS* allows that to take place very efficiently and easily.

The other thing that it does is that in every copy of *TOPS* that's gone out, including the $149 Macintosh version, there is an embedded remote procedure call language. That's what people normally call it—we call it a Remote Function Protocol/RFP. What that means is that there is, as a part of *TOPS*, a language which allows one CPU to ask another CPU to do work on its behalf. That's right in *TOPS* already, and we are just on the verge of publishing to all potential developers the full specifications for how to access and use the RFP.

There's another interesting thing that is in our product as well, that we call Innerbase. Innerbase is actually a fully relational B-tree database system that's RAM-resident on the Macintosh. We use it for a very trivial purpose—important, but trivial—we use it for what we call name-scrunching, to take a Macintosh name and scrunch it down to the size that an IBM can use—which is to say eight characters followed by a period followed by three characters—whereas a Macintosh name can be 31 characters long and have spaces in it. However, that thing is also useful to anybody who wants to use it for anything. It's a real little database engine sitting in there—there's no user interface whatever—but we're going to publish the access points so that if a person wanted to do elementary sorts on a remote machine, he'll be able to do it through Innerbase and it'll be quite easy. This is not a replacement for a *dBASE II* or an *Omnis 3*, it's just another tool that developers can use and get for free when their users also have a copy of *TOPS*.

***TOPS* itself is a software product?**

We sell *TOPS* for the Mac, *TOPS* for the PC, and *TOPS* for UNIX. *TOPS* for the Mac is a software-only product, and that's because Steve Jobs in his wisdom stuck everything you need to do networking except the cables in the Macintosh, and gave it away for free.

The IBM PC does not have similar capabilities, so on the PC side of the world we provide a card; that card provides basically a network channel on the IBM PC that's capable of talking to what's built in for free on the Macintosh.

With UNIX machines there's two ways to access them—through their bus structure by providing an AppleTalk card appropriate for that bus, or by using a box called the Fast Path Box, which is developed by a company we're friends with in Walnut Creek called Kinetics. It's an AppleTalk to Ethernet bridge. Most big machines know how to talk to Ethernet already; this just plugs into their Ethernet port and provides AppleTalk on the other side, so Macs and PCs can be physically linked into the bigger machines. The product we sell for the bigger machines is just a software product—we give them a tape or some other media understandable by the larger machines, and load into memory the *TOPS* server module, and then it provides service to the Mac and PC through this linkage.

There's been a certain amount of unhappiness with the slowness of AppleTalk. Do you find this a limiting factor?

Well, there's two answers to that. One is: for most circumstances and most work groups, almost all the time, it's plenty fast. If you have between two and, say, 15 users in a work group, generally speaking the speed of AppleTalk is not a constraint on the network. When network performance goes down, it's usually because everyone is trying to read the same file at the same time, or just trying to use the same file server at the same time.

So the answer to your question is: generally speaking AppleTalk is in fact slow, but it doesn't make any difference. If you have a nice country lane and not a lot of cars traveling on it, you can still go at 55 miles an hour. It's only when you try to divert all the traffic off the freeway onto the country lane that you get into big trouble.

That's not the typical situation in most offices. In most offices, people work in work groups. They don't work in big groups of thousands and thousands of workers at the same time. It's typical for 10 or 15 workers to be together, not an infinite number. Under most circumstances, AppleTalk is fine.

The circumstance under which AppleTalk is *not* fine is when you want to have hundreds of users on the same net. Then AppleTalk is inadequate, and I predict with a relative degree of assurance that there will be an adequate means of handling that in the short term. Kinetics has come out with an Ethernet box that plugs into the SCSI port of a Mac Plus; we all hear rumors of an open-architecture Mac, and if there are Macintoshes with slots, presumably somebody will immediately make an Ethernet card. The thing is it won't be free anymore, or essentially free—it'll cost what an Ethernet card costs, which on a PC is currently $700.

> **"With the advent of more powerful CPUs, server devices no longer need to be limited to simply file servers. They can take on a host of other network services as well."**

What was behind the decision to support UNIX?

We are firm believers in the utility of this product in the academic and government computing environments. In both of those, UNIX is a central operating system, and it is particularly useful to be able to use a large UNIX server and small local workstations—the Mac and the PC as the front end, running their application programs locally, using the vast storage resources that have been collected on big servers. We feel that that's the right way to go.

We support AT&T UNIX and Berkeley UNIX. Until recently, Berkeley UNIX has had a richer set of functionality for network environments than AT&T UNIX; the next release of AT&T UNIX will include most of the Berkeley enhancements.

Right this second we support the MicroVAX and the VAX 750 and 780 series, running Berkeley UNIX. That product is being co-marketed by a little company who's in the same building we are called Mt. Xinu. Basically, Mt. Xinu is Berkeley UNIX hackers who didn't join Sun. They're very bright, capable people, and they sell the Unix 4.3 called BSD Unix.

I would guess we'll have Suns running in a couple of weeks. We support Pyramid, Sequent, Integrated Solutions, Cadmus, VAXes, and we run on an AT running UNIX. And it is our duty to do a version of this that runs on XENIX as soon as possible.

The idea is to provide *TOPS* servers in a variety of different operating systems. We are moving heavily into the minicomputer world, and ultimately our goal is to link to a few mainframe operating systems as well.

How does *TOPS* handle the commonplace problems on nets — the situation you were describing where everybody wants to access the same file at once, and data security, because it's very rare that you'd want everyone to have access to everything?

TOPS is a distributed file server architecture. Every copy of *TOPS* that we sell allows you to turn your machine into a file server, or to use somebody else's machine as your file server, or both at the same time. Without switching modes or anything—it takes two seconds to become a file server. Well, five seconds.

That's a special feature of *TOPS*—there are other networking systems that provide distributed file service as well, but nowhere is it this easy, or this clever. Actually part of that credit goes to Apple—they have a mechanism in AppleTalk called name lookup, which tells you in real time who all of the devices on the network are that are acting as file servers, or any other kind of service that you're looking for. In other networking sys-

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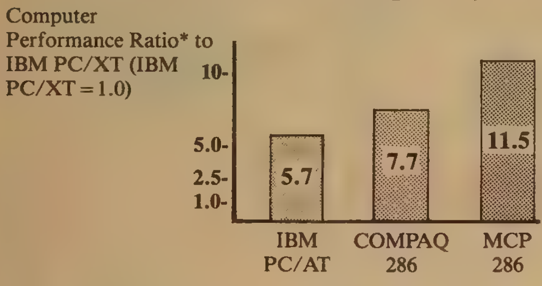
MPC 286

(Multi-Purpose Computer)



*based on the Norton Utility SI-System Information Command

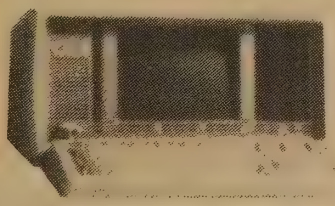
$1495

*12MHz Option Available

MPC—286/AT is a powerful and versatile personal computer system that combines Japanese quality, uncompromising capability and lightening speed. Reliably engineered, this system provides for exceptional versatility and upgradeability. Its power delivers bottom line productivity improvements in single and multitasking/multiuser applications, individual workstations and shared environment alike.

The **PC-TECH MPC/286** personal computing system provides increased IBM-AT compatible computing power, performing 50% faster than traditional 8 MHz AT's. Ideal for general business use, the MPC 286-AT also serves as an extremely powerful engine for applications-oriented workstations, both stand-alone and shared, including desktop publishing business graphics and CAD/CAE. Its design also includes support for increased connectivity and access to shared information as a local area network file server, to manage multi-user environment or as a cluster controller in shared mainframe or minicomputer connections.

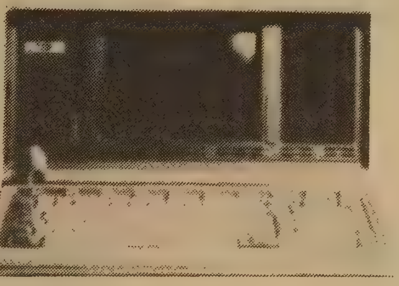
- 10 MHz 80286 system unit with zero wait state operation, runs popular IBM-compatible software 50% faster than the 8 MHz IBM PC AT for true productivity improvements, even for the most demanding user.
- Advanced coprocessor socket accepts 10MHz 80287 devices. When configured with coprocessor MPC/286 accelerates mathematics-intensive programs including Lotus 1-2-3 Release 2 applications, Autocad and Versacad.
- 640K RAM with parity checking up to 1024K on board. 16 MB w/expansion card.
- Keyboard-selectable operations at 10 or 6 MHz the ultimate in software compatibility.
- Advanced architecture allows incorporation of four asynchronous serial communication ports and one parallel port standard on the motherboard. Only 36 chips on the CPU with the implementation of VLSI (Very large scale integration) technology.
- Eight expansion slots 2 = 8 bit/6 = 16 bit bus.
- Real time clock/calendar provides time and date stamp.
- High capacity 1.2 Mb floppy drive standard. (360 Kb optional).
- Choice of 20, 30, 40, to 120 megabyte harddisk drive (optional)
- Optional internal tape unit for rapid back-up of a full 20 to 60 megabyte of data on a single tape cartridge.
- Ergonomically designed, the 101 key, low profile keyboard features a separate numeric keybad dedicated cursor control and extra function keys.
- Compatible with wide variety of operating systems, such as PC-DOS, MS-DOS, XENIX, UNIX, Multilink advanced, and other version of Concurrent Dos.
- Compatible with available multitasking and task switching software packages, including Microsoft Windows, Deskview and Topview.



P-286 TARGA 6/10 MHZ PORTABLE

P-286 TARGA is smallest and fastest portable computer in the industry. P-286 TARGA comes with 1024k R.A.M., Serial, Parallel clock calendar, 1.2 MB floppy drive and its 100% compatible with IBM-AT or compatibles. P-286 TARGA has a dual mode screen (Hi-RES) 20 or 40 megabyte harddisk drive (optional)

Price **$2195**



PV-20 TARGA (Portable)

PV-20 TARGA gives 100% IBM compatibility in less than 28 lbs in high powered rugged computer. Features an NEC-V20 fast processor giving you twice the speed of Compaq portable IBM XT or equal, 640k memory, 360k Floppy drive, 9" anti glare screen RGB, Serial, Parallel ports. Smaller than Compaq portable.

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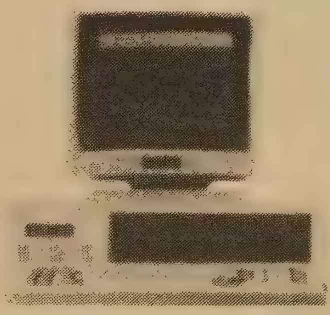

XT-TURBO

The feature packed model is based on an Intel 8088-2 or NEC-V20 running at 4.77 or 8 Mhz. The standard system has a 0/1 WAIT STATE on memory and operates 200% faster than IBM-XT. 640k RAM memory on board, 360kb floppy drive, Eight expansion slots, AT style keyboard, 150 watts power supply, Clock/calendar, Serial, Parallel & game port.

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ST4096 80MB (28 ms)	**$999**
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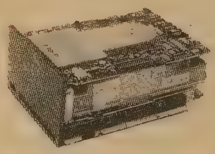

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Hayes and Bell compatible
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300/1200 Internal with software and manual	**$99**
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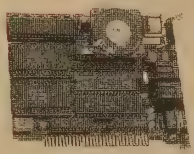
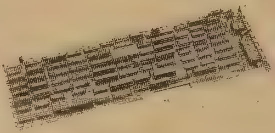


AT CARDS (Memory)

Special

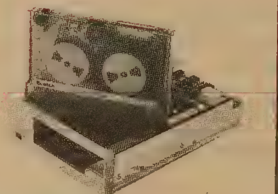
RAM 3000, 3MB, 0K	**$150**
MIO (serial and parallel) 2MB of RAM, 0K	**$148**

Mini I/O card (serial and parallel)	**$50**
Hard disk/Floppy controller	**$160**
Mono Adapter	**$89**
EVEREX Edge	**$215**



TAPE DRIVES

	Int.	Ext.
20MB TEAC cassette	**$580**	**$680**
60MB Wangtek cartridge	**$750**	**$850**



EGA COLOR CARD

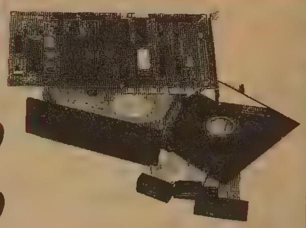
$199

80286 TURBO BOARD 0K

$349

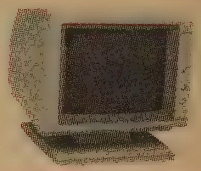
HARD DISK KITS

20MB Seagate ST225 with controller, cables, software, and Manuals	**$329**
30MB Seagate ST238	**$379**



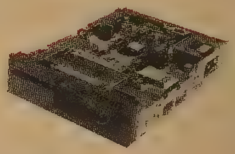
MONITORS

High Resolution Mono monitor	**$95**
EGA Color, 14" monitor	**$450**
14", High resolution Mono monitor	**$139**



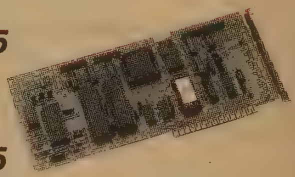
FLOPPY DRIVES

Fujitsu 360KB	**$85**
Fujitsu 1.2MB	**$120**
TEAC 360K	**$99**
TEAC 1.2MB	**$135**
Beige Bezel	**$7**



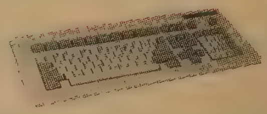
XT CARDS

MIO card Serial and parallel port Clock/Calendar	**$55**
MIO Magic II Serial, parallel, and game port Clock/Calendar Up to 576K software	**$135**
Floppy/Hard disk controller	**$120**
Floppy controller	**$35**



KEYBOARDS

5150 style keyboard	**$45**
5151 style keyboard	**$70**
AT™ style keyboard	**$70**
AT™ Enhanced-keyboard	**$99**



MISCELLANEOUS

MS DOS 3.2 w/GW Basic	**$85**
Parallel printer cables	**$9**
Dynatech DS4 Surge Protector	**$69**
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- High resolution Monographic card
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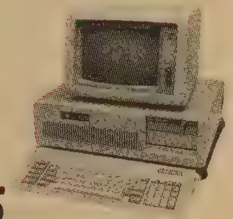

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- Keyboard

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ATROSE EGA HDA

EGA HARD DISK SYSTEM

- 20MB Seagate
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- 14" EGA Color monitor
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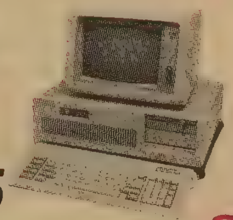

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TURBO XTROSE EGA HDA

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- EGA Adapter
- EGA monitor
- Keyboard
- Multi I/O card
- 20MB Hard disk

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> **"Everything can be a file server—you don't need to designate a single spot where everything is stored. TOPS can have distributed storage around the net, so that the person who's most strongly associated with a certain kind of information keeps that information on their own hard disk."**

tems it's necessary to inform your computer, basically, who all the other devices in the world are; there's a table somewhere on the net that has the names of all the devices on the net. And that's usually hard to change; it needs a system administrator to change.

In Macintoshese, *TOPS* goes out and dynamically says "Hey! who's there?" and everybody who's there hears that and says "Hi, I'm here, my name is so-and-so, and here's what I am." So I get a list of who's out there, and that's a very clever thing that Apple did.

That, coupled with our distributed file service—namely that everything can be a file server—is a very potent combination, because it really means that you don't need to designate a single spot where everything is stored. It really can have distributed storage around the net, so that the person who's most strongly associated with a certain kind of information typically keeps that information on their own hard disk. Hard disks are so cheap now, the need for a shared hard disk isn't there anymore. What's needed is shared data. So you can keep your data locally on your hard disk, and when other people need it you publish it—which is our metaphor for becoming a file server—and everybody has access to it.

So one of the issues, which is what happens when everybody goes to the same file server at the same time, doesn't happen very often with *TOPS*, because typically it isn't configured that way. It can be, but it isn't necessary; under other systems that are here or soon to be here, it *is* necessary. We think that's a very clear superiority of our product.

The broader question of data security is handled in a couple of ways under *TOPS*, pretty much the way that other networking systems handle it. That is, not as well as one would like.

There are different kinds of data security. There's the kind where you don't want other people to get into your files. That kind of data security we have perfectly. If you don't want anybody to get into your files, you just don't publish them, and they can't get into your files. That's it. And if you want certain people to get into your files and not other people, you put a password on them, and *that's* it.

So it's not a matter of setting permissions like it would be in a UNIX system.

No, it's not as fancy as setting permissions on a UNIX machine. We thought long and hard about it, and we decided that the penalty of keeping all that information on a microcomputer was too great, that it wasn't worth the benefits. But if a microcomputer hooked up to a UNIX machine, it's got it, just the same as if it were between UNIX and UNIX. We've left it in where there was a bigger computer involved; between micros we thought it was too complicated.

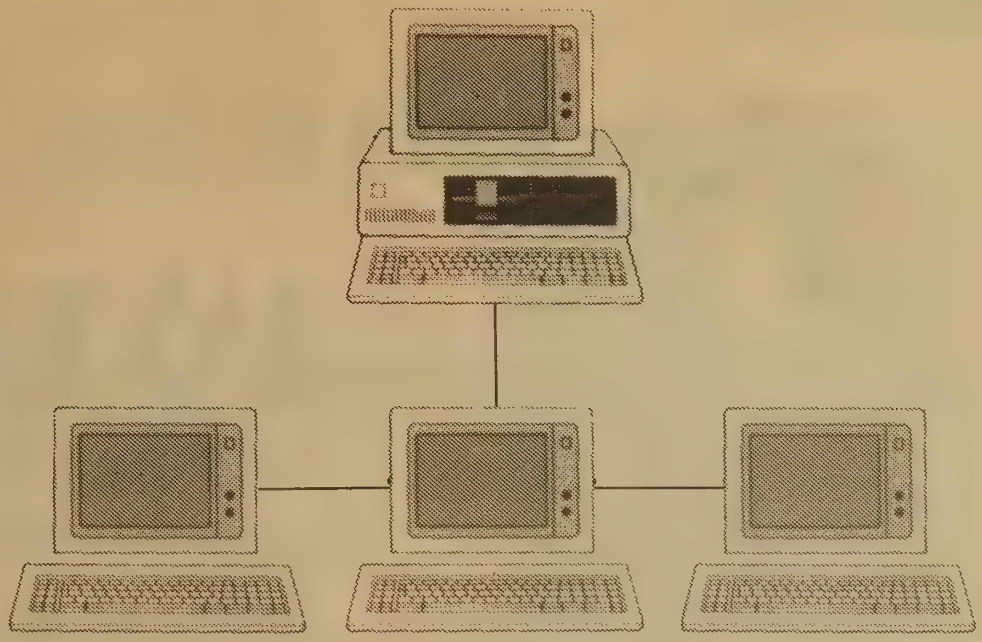
What's next?

The company's doing very well. We are clearly the premier selling Macintosh network at the moment. I think we've gone far beyond any of the competition. Our UNIX version is starting to ship now, in every instance co-marketed by the box manufacturer, the UNIX manufacturer or software purveyor that we've done the port for. We will have other operating systems supported by the end of the first quarter.

Our objective in life is to try to connect everything to everything, and there are a few instances where we've actually done it. (Centram, 2560 Ninth Street, Suite 220, Berkeley, CA 94710, 415/549-5900.)

Share Your Resources

Expand your existing PC/XT/AT to a multi-user system!



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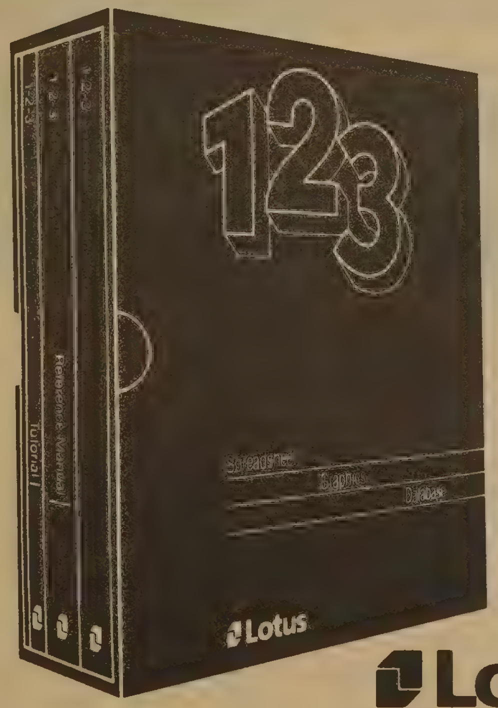

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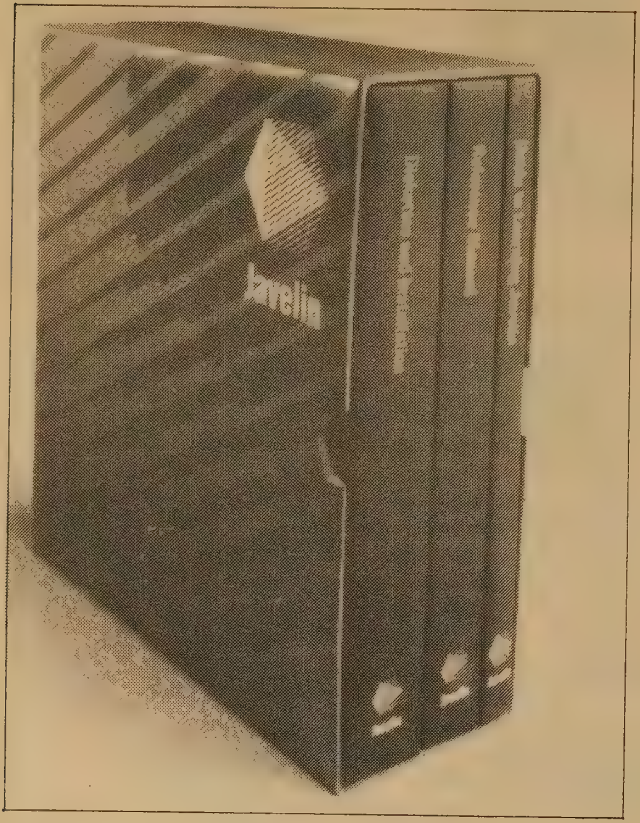


JAVELIN

Now this powerful financial package is within the reach of the home and small business user

By Birrell Walsh

Javelin, a business finance product for IBM compatibles, has attracted considerable attention and generated a number of favorable reviews. At $695 a copy, however, it was not for us small business or home users. We read the rave reviews, wished we could afford it, and went back to our copy of *VP Planner*, the $99 *Lotus 1-2-3* clone.

Things have changed. Javelin recently decided on a bold marketing move—they slashed their price for the next ten thousand copies from $695 to $99.95; after January 15, 1987 the price goes to $199.95 list, still a bargain. There was sound reasoning behind this move—they calculated that no businessperson could resist the price. They also calculated that people who tried *Javelin* would get hooked, stay with it, and spread the word.

They may be right. *Javelin* is addictive, and a very powerful tool for handling money.

IT'S NOT A SPREADSHEET, IT'S NOT A DATABASE...

Early reviews of *Javelin* all agreed that it was powerful. They also all called it difficult to describe. It was not a spreadsheet, they said, nor a database, nor an accounting program, though it had elements of all of those. It was like nothing but itself.

Having *Javelin* is like having a small staff which meets with you about your finances. This staff maintains a database of financial information. Each staff member has a specialty, but they all share all their information among themselves.

The "staff" is *Javelin*'s collection of "views," which are not just ways of looking at financial data—they are also ways of changing information.

Confused? Well, so were we when we read about it. However, we found that *Javelin* was easy to understand once we got our hands on it. Using our household and small businesses as an example, let us give you a tour of *Javelin*.

A PRACTICAL EXAMPLE

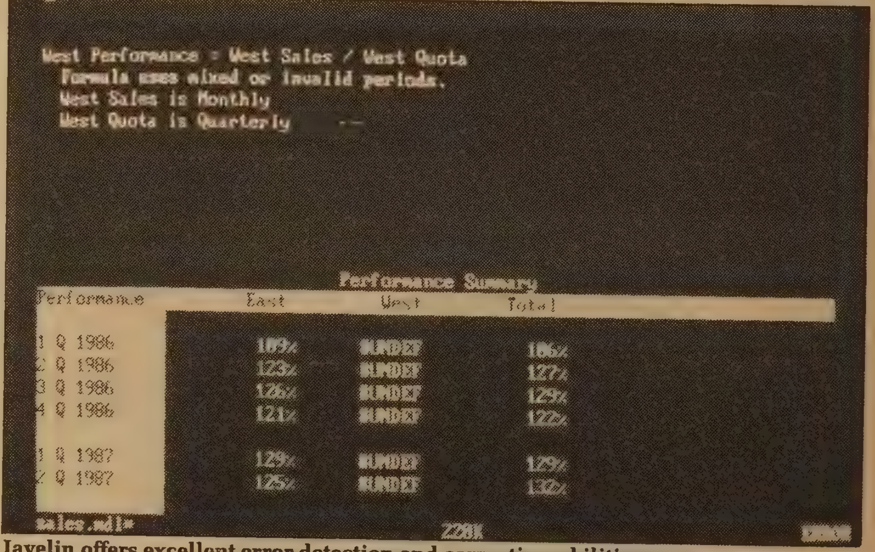
We usually start a financial plan by writing down a few formulas. In a spreadsheet application, you would probably write that formula on a piece of paper, then translate it into rows and columns before approaching your computer.

Not so in *Javelin*. While spreadsheets are organized around rows and columns, *Javelin* is organized around descriptive formulas that you write: "**Annual Savings = Annual Incomes – Annual Expenses.**" *Javelin* lets you write this formula on the edit line. We noticed immediately that *Javelin*, unlike most programs, allows multi-word variable names. In fact, these words can be in any order and the letters can be in any combination of upper and lower case: "Annual Expenses" is the same as "Expenses Annual" or "annual expenses."

One window on *Javelin*'s initial screen is labeled "Diagram View." The diagram view is one of *Javelin*'s most useful features. After we entered the formula on the edit line and hit return, a diagram appeared in the "diagram view" window.

```
Annual Incomes------
      --->> Annual Savings
Annual Expenses------
```

No matter how complicated our formulas got, the diagram view always showed what depended on what. This is one of the three "views" in *Javelin* that make it easy to keep track of dependencies and relationships in formulas. The other two are the "Formula View," which shows all the formulas you have written; and the "Error View," which lists all the unresolved formulas and undefined variables.



```
West Performance = West Sales / West Quota
  Formula uses mixed or invalid periods.
  West Sales is Monthly
  West Quota is Quarterly

                     Performance Summary
Performance        East        West        Total

1 Q 1986           109%        UNDEF       106%
2 Q 1986           123%        UNDEF       127%
3 Q 1986           126%        UNDEF       129%
4 Q 1986           121%        UNDEF       122%

1 Q 1987           129%        UNDEF       129%
2 Q 1987           125%        UNDEF       132%
sales.mdl»                228K
```

Javelin offers excellent error detection and correction abilities. Here, Javelin is pointing out the inconsistency between quarterly quotas and monthly sales figures.

In this first step, *Javelin* showed the attitude built into its construction. *Javelin* is always clear about what is known and what is not. If you have ever spent hours trying to find a mistake in a spreadsheet, you will appreciate *Javelin*'s presentation of relationships.

We wrote more formulas: "**Monthly Expenses = Rent + Groceries + Parties.**" "**Annual Expenses = Tsum (Monthly Expenses).**" "Tsum" is *Javelin*'s function for summing an item over time. *Javelin* is unique in its dealing with time—it assumes that any variable has values over time. It acts on that assumption by offering drop-down menus that allow the user to set the time period. One can choose to make the time period days, weeks, months, quarters or years. We chose to make a month the default setting for the "model" (*Javelin*'s name for its databases), with a start in January 1987 and an end the following December. As soon as we did that, a "table view" appeared in the lower half of the screen.

This table had labeled blank spaces for the variable from January 1987 on. We could use this table to view or enter the monthly data. We entered the data for our rent, groceries and parties. When we had defined those figures, *Javelin* had all the information it needed to calculate monthly expenses. One tap on the recalculate key, and we had them. Then we decided to look at the rent,

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groceries, parties and total expenses in *Javelin*'s "Chart View." With the cursor on the item we wanted to see graphed, we set the other window to chart view. There it was: a chart of the variable. *Javelin* looked in its database to find the period we had chosen for the variable, and used it as the period for its chart. With the "sync" button on, it tracked with us on the diagram. We skipped along the diagram, looking at the ups and downs of our expenses for the year.

Javelin is difficult to describe because it is a kit-bag of many different tools. Most of them are available in other programs, but separately. One such feature is the "note view"—it is like the RAM-resident programs which allow you to attach explanatory notes to a spreadsheet or document. In the notes view, you can keep a special note or explanation of any variable. We took a moment in filling out our rent table to note that the rent figure for the latter part of the year is an estimate.

We found ourselves with expenses defined, half of the job done. We needed to define our incomes as well: "**Annual incomes = Tsum (monthly incomes).**" "**Monthly Incomes = His Salary + Her Salary + Business Profits.**" Her salary is paid twice a month; his, every two weeks. In most spreadsheets, the user would take four weeks as "close enough" to the period, or laboriously calculate the number of two-week periods in each month. *Javelin*, ever helpful, lets you define custom periods of time. We defined "fortnight" and told *Javelin* to convert it to months with the expression "**Monthly(His Salary).**"

Each of us has a small business. "Business Profits" was a combination of our separate net profits. We could put all the calculations into this one model; however, *Javelin* made it easy to create, then integrate, separate models for each of our businesses. *Javelin* offers what are called "building blocks"—subprograms that handle major calculations or integrations for you. One such is the "roll up" building block. It is intended to allow a business to combine (for example) sales and costs from many departments or divisions. It can be used just as well for small, one-person businesses.

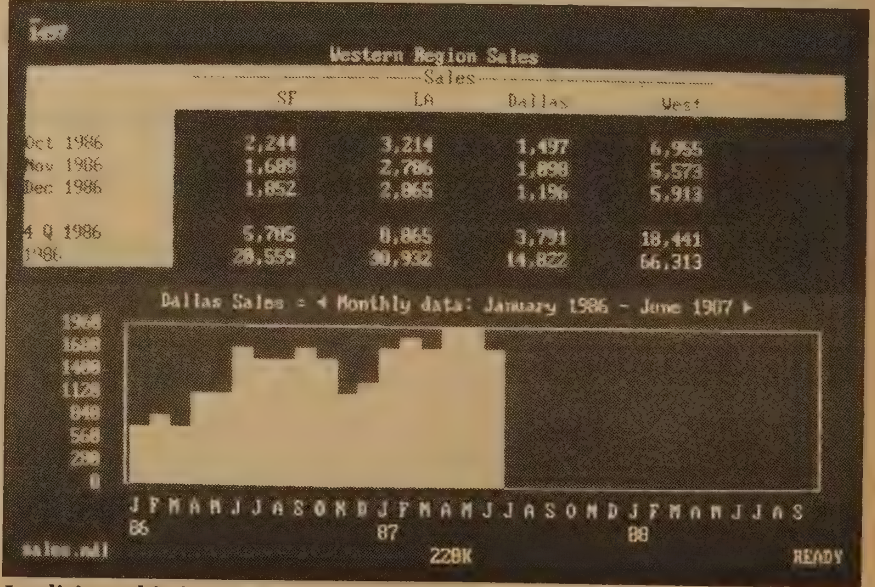
I write, and my wife is a weaver. Our businesses have very different kinds of expenses and sales. It is convenient to have separate records for the two businesses, and just as necessary to be able to combine summary information about our profits and losses. We made separate models for our two businesses. *Javelin*'s "roll-up" building block let us gather up financial elements from the two models and integrate them into our joint model.

"Roll up" building blocks can integrate many different models into one. Other building blocks allow the user to build lookup tables, curves to account late payments from purchasers.

All of the main model, so far, occupied about 5K out of the 175K available to the user of a *Javelin* model. The model used very little memory, and only a few of *Javelin*'s abilities.

There are 75 predefined functions in *Javelin*. Some are simple mathematical functions, like MIN() for the minimum value of a set of values. Others are very complex, like the correlation coefficient. There are date and time-period converters, logical functions, dozens of mathematical and statistical calculations, and a number of purely financial forecasters.

Javelin is loaded with features reminiscent of *Reflex*, Borland's acclaimed database. There are drop-down menus with similar commands for all the views. The function keys have a well-made plastic template to remind you of their functions. "Help" appears on F1, as it does in many products. F2 is "edit" as in *Lotus 1-2-3*. Other keys allow the user to jump from window to window, to recalculate the model, to use macros, and to see a quick graph. One key called "Sync" locks the windows together—if the user moves along the diagram from variable to variable with the cursor, the window below shows the appropriate table.



```
                    Western Region Sales
            ---------------------Sales---------------------
                  SF          LA        Dallas        West
Oct 1986        2,244       3,214       1,497       6,955
Nov 1986        1,689       2,786       1,098       5,573
Dec 1986        1,852       2,865       1,196       5,913

4 Q 1986        5,785       8,865       3,791      18,441
1986           28,559      30,932      14,822      66,313

        Dallas Sales = ◀ Monthly data: January 1986 - June 1987 ▶

sales.mdl                     228K                          READY
```

1960
1680
1400
1120
840
560
280
0
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S
86
87
88

Javelin's multi-view capability allows the user to analyze and compare related information in different contexts and formats.

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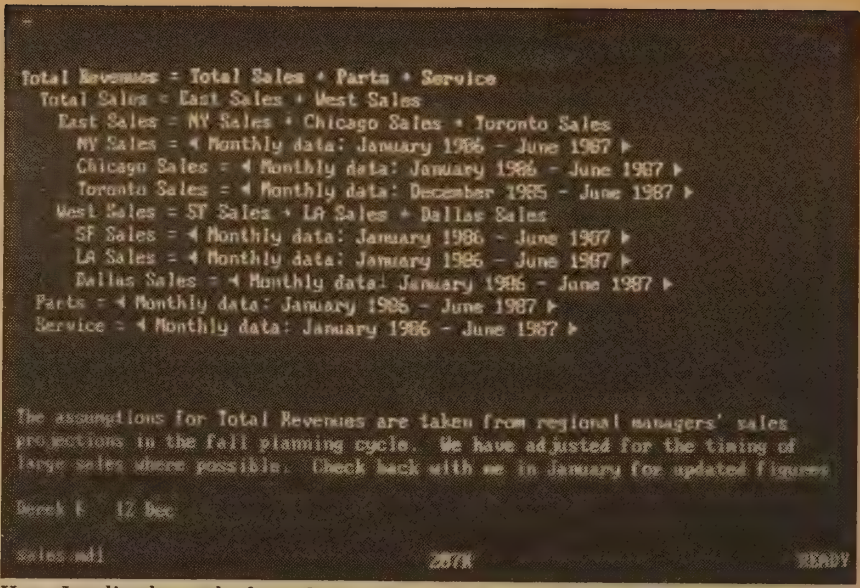


```
Total Revenues = Total Sales + Parts + Service
  Total Sales = East Sales + West Sales
    East Sales = NY Sales + Chicago Sales + Toronto Sales
      NY Sales = ◀ Monthly data: January 1986 - June 1987 ▶
      Chicago Sales = ◀ Monthly data: January 1986 - June 1987 ▶
      Toronto Sales = ◀ Monthly data: December 1985 - June 1987 ▶
    West Sales = SF Sales + LA Sales + Dallas Sales
      SF Sales = ◀ Monthly data: January 1986 - June 1987 ▶
      LA Sales = ◀ Monthly data: January 1986 - June 1987 ▶
      Dallas Sales = ◀ Monthly data: January 1986 - June 1987 ▶
  Parts = ◀ Monthly data: January 1986 - June 1987 ▶
  Service = ◀ Monthly data: January 1986 - June 1987 ▶

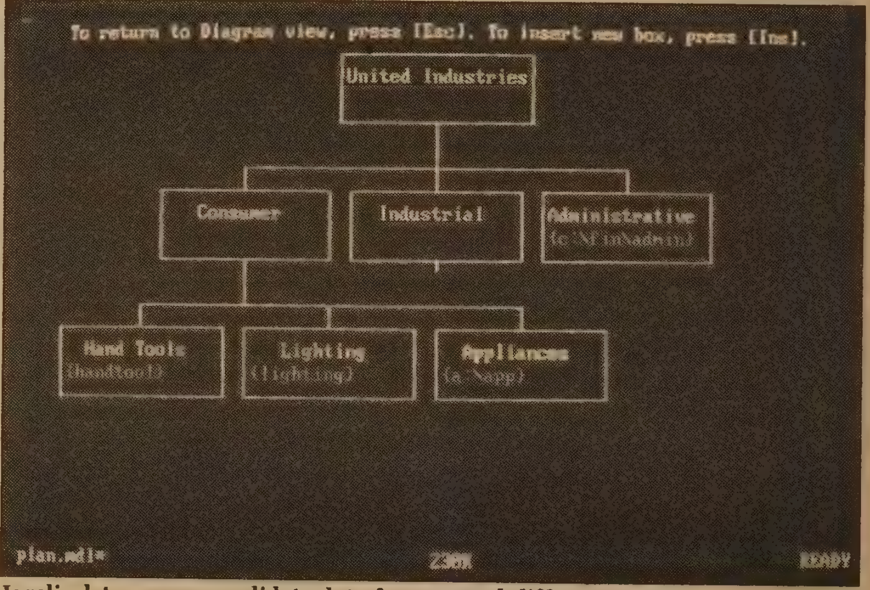


The assumptions for Total Revenues are taken from regional managers' sales
projections in the fall planning cycle.  We have adjusted for the timing of
large sales where possible.  Check back with me in January for updated figures

Derek K   12 Dec

sales.mdl                    207K                          READY
```

Here, Javelin shows the formulas involved in computing Total Revenues, and displays in a Notes window the assumptions upon which the projections are based.



To return to Diagram view, press [Esc]. To insert new box, press [Ins].

Javelin lets users consolidate data from several different models in a Rollup Building block.

Javelin has so many virtues that its "Worksheet View"—which seems to be a spreadsheet—is a disappointment. It is a disappointment because it is *not* a spreadsheet. Instead, it is another window into the database which *Javelin* keeps. One cannot use it as one can a *Lotus 1-2-3* spreadsheet, for quick scratch calculations and text notes. All the habits that I acquired working with *VP Planner* got in my way as I worked with *Javelin*'s spreadsheet. It's not that *Javelin* is inconsistent, it's just that it handles information differently. In *Javelin*, there are no numbered or lettered rows and columns. Instead, all rows and columns are named after either variables or time periods. No name, no access to the data.

I found that I at least could not figure out how to make *Javelin* into a check reconciler, something anyone could do in a simple spreadsheet. A spreadsheet's rows and columns and sorting facilities lend themselves to making databases. *Javelin* does not handle database manipulations comfortably. This is the negative side of building around formulas, which may also be *Javelin*'s greatest strength. *Javelin* does make it possible to import information from *Lotus 1-2-3* spreadsheets, which can be pressed into service as a database auxiliary.

The measure of any software is its amplification of one's own abilities. We found that *Javelin* let us think about finances more quickly and easily than a spreadsheet could. We could examine our assumptions with the formula, diagram and error views, and debug our work in a very short time. The graphs are quick and relevant. The tutorials are elegant and easy to understand. They walk you through *Javelin* until you have seen most of its features, and are ready to try it on your own. The entire program has a thoughtful and usable interface that lets you work with your information instead of studying a manual.

Is *Javelin* the product for your home finances and small business? It is if you know your finances well enough to describe them in formulas. If you do, *Javelin* can do as much for your home and small business as it has for large corporations who bought the package for $695. It is an extraordinary bargain. (Javelin Corporation, One Kendall Square, Cambridge, MA 02139, 800/JAVELIN.) ☐

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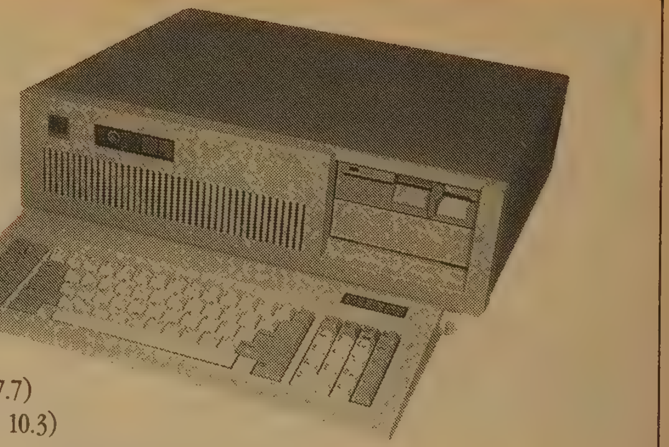

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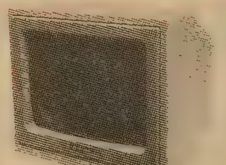

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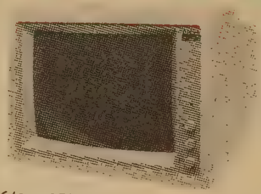

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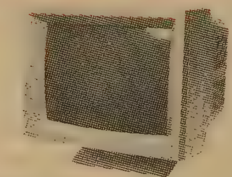

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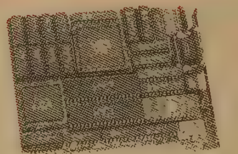

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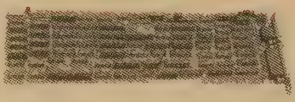

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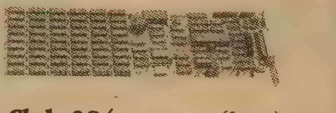

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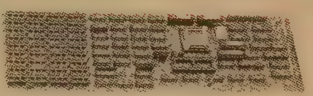

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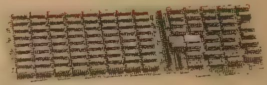

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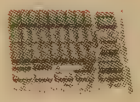

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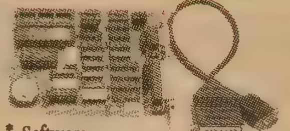

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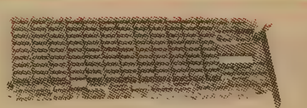

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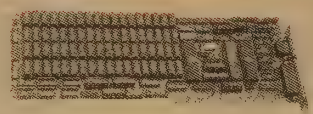

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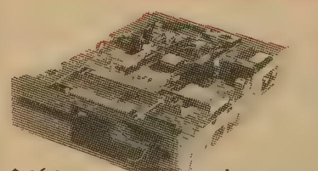

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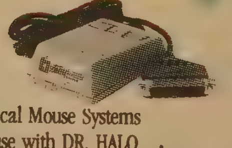

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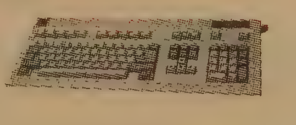

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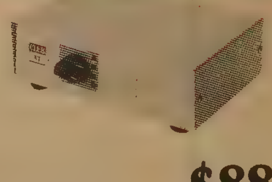

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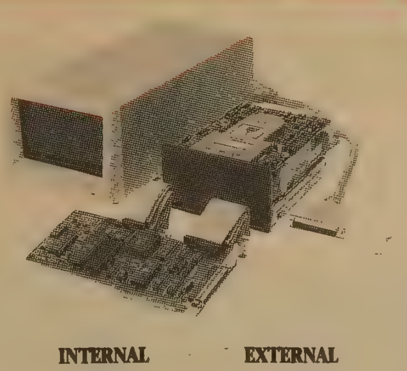

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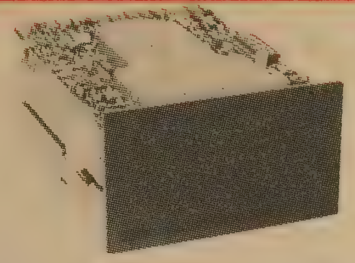

QUALITY & PRICE

39 ms Access time

- * 39 ms access time
- * Auto Head Parking
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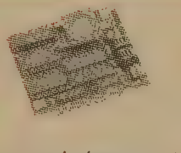

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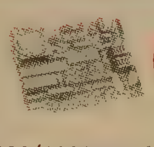
EVERCOM 24 $229



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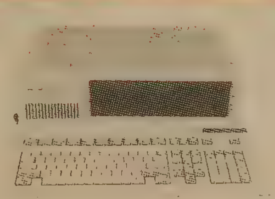
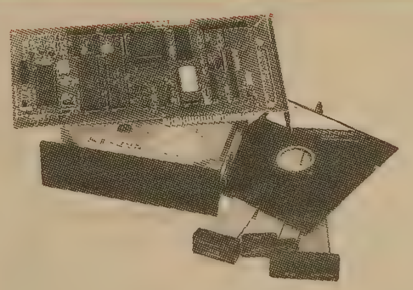


20/30 MB HARD DISK SUBSYSTEM



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FOR AT

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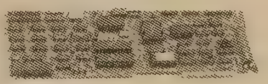
FOR PC/XT



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- * W/Power supply
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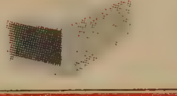

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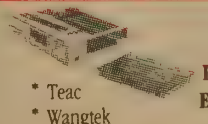

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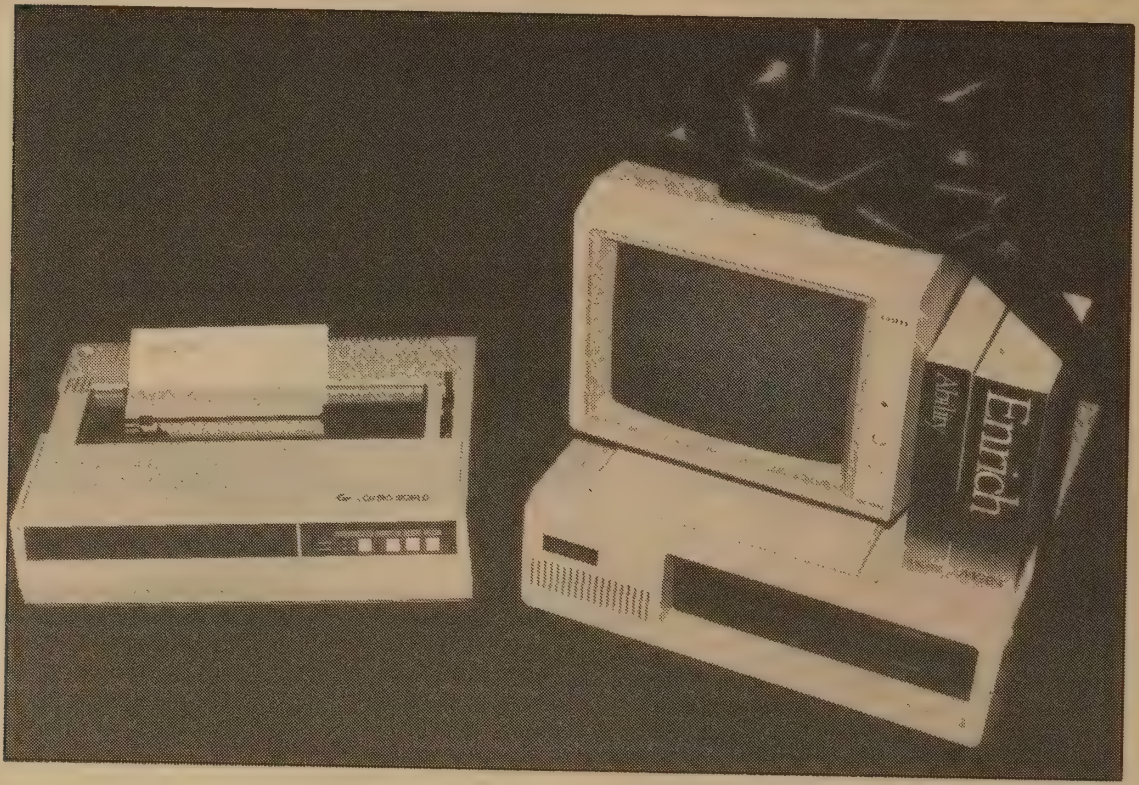

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Ashton-Tate Alumni Prepare Revolutionary Software, Seek Third-Party Developers

Migent's Quest For The Ultimate Database

By Stephan Wickham

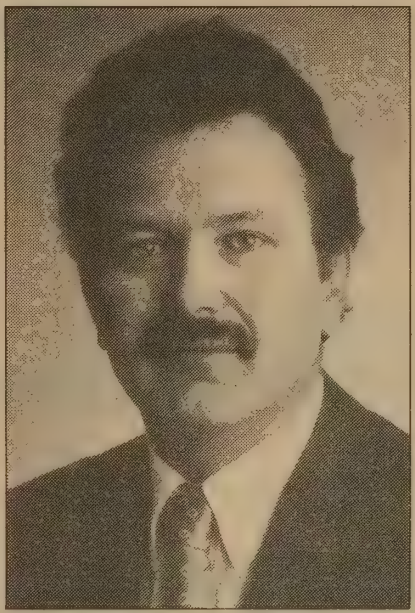
A question frequently heard around corporate offices these days is "How do I get the data from my different programs to work together?" In Incline Village, Nevada, a team of Ashton-Tate veterans is working on a new database that effectively eliminates this problem. With this product, very diverse applications will be able to share data in a manner transparent to the user.

Migent Inc. was founded by Carl Gritzmaker, A-T's former head of sales, and it offers a diverse line of products from software to modems. The impetus for the ambitious database project, code-named *Emerald Bay,* was provided by Wayne Ratliff's departure from Ashton-Tate in early 1986 and his subsequent arrival at Migent.

Ratliff could legitimately be called a software superstar, being the sole author of *dBASE II.* (Interestingly, the name *dBASE II* was coined by Ashton-Tate to suggest an improvement over the nonexistent *dBASE I.* Ratliff himself, who sold A-T exclusive distribution rights to the product in 1981, called his creation *Vulcan,* after Star Trek's Mr. Spock, famed for his powers of total recall.) His current project is a new process of database management designed to bring together dissimilar data for information analysis requirements.

In its present form, the software consists of a memory resident database engine, which serves as the database management unit and record-and-file-locking mechanism. It includes a number of interface modules which reside on disk and are called in as needed to allow the user to import and export data transparently from dissimilar applications (e.g. *Lotus 1-2-3, dBASE III,* etc.).

The modules that provide the interface between the *Emerald Bay* database engine and third-party applications are called "surfaces." Built into the engine and the application, they provide a seamless data link. Various applications can be interconnected to the database engine, resulting in one compatible database management system. Surfaces can take on the appearance of the programs they're attached to—for instance, a *Lotus 1-2-3* surface could be designed to correspond to the appearance and structure of *1-2-3's* characteristic menu system.



Wayne Ratliff, author of *dBASE II,* is now at work on a revolutionary database manager for Migent.

Another interesting aspect of the *Emerald Bay* engine is that it allows applications to access data in other applications directly—you could be doing a range statement in *1-2-3* and access data outside the spreadsheet as if it were part of the spreadsheet.

Emerald Bay provides a common data pathway between applications; data organized in this manner becomes a "data pool," rather than a collection of dissimilar data. Currently, information stored in word processors, spreadsheets, accounting programs or other applications is normally specific to the application in which it originates.

The *Emerald Bay* database engine will contain a built-in data dictionary that operates at the attribute level (field). It will keep track of such matters as how large the field is, how wide, its protection level, its owner, an attribute note field, a permission field, the data range and type; it will also provide a record of attached indexes and a note field for them. The note fields are designed to be up to two gigabytes long, and the data dictionary will keep track of the field attribute's long and short title. Field types currently include character, floating point number, binary (for graphics), big binary, text, date and time. Additionally, both short integer and long integer fields are present but hidden, and a packed decimal field type may be included.

While the relational model defined by E.B. Cobb in the early '70s (and now considered the academic basis for relational databases) finds its closest present-day approximation on mainframe systems, *Emerald Bay* will be a far more mature implementation of this standard than currently exists in the micro world. A database is a collection of relations; one *Emerald Bay* database is equivalent to a collection of *dBASE III* databases. Each *Emerald Bay* database can have up to 250 relations (each relation equivalent to one *dBASE III* database) and 32,000 field attributes per relation (of which 4,000 can be used for any tuple).

Migent plans to release the first version of *Emerald Bay* sometime this year, with the beta version slated for the first quarter. This will be a network version of the software, which will run on Novell, 3Com, and other systems using IBM's Net-BIOS. According to Ratliff, the design of this version allows for seven databases at a time to be open at a local site, with seven more databases on the server.

Single-user versions are planned for 8088-, 80286- and 80386-based machines (the more powerful processor is desirable, but users of the slower 8088 machines should not notice a significant loss of speed). Later versions will also support the Windows environment, providing memory management, input-device support, display adapter support, communication support, screen handling and program switching.

Former Ashton-Tate programmer Jordan Brown, who also helped develop *dBASE III,* is currently at work porting the *Emerald Bay* code to UNIX System V, making the program available to the workstation and minicomputer environment and opening the door for UNIX and XENIX versions. He's also working on the system's password security protection—a key concern where files are shared.

Using the interface surfaces planned for the initial release, users can examine and change data and generate reports by using IBM's Structured Query Language(SQL) or Query-By-Example. Another A-T veteran, Garry Lang, is working on these interfaces. SQL will act as a control language for the whole application.

Knowing that the ultimate success of *Emerald Bay* depends on the support of third-party developers and publishers, its creators are keeping its architecture open. Its published specifications will be as comprehensive as those for PC-DOS. Ease of use will be the main criterion for the surfaces interfaces, which will have data hooks more powerful than those *Lotus* included in Release 2 of *1-2-3.* Migent will also publish a set of findings for tie-ins to various languages, including C, COBOL, Turbo Pascal and BASIC.

Further, Migent encourages all interested large corporations, product development groups, publishing houses and systems consultants working on networks to apply for a beta copy of the soon-to-be-released network version of *Emerald Bay.* Inquiries (by mail only) should be sent to Migent Corporation, 865 Tahoe Blvd., P.O. Box 6062, Incline Village, NV 89450.

Work on the interface surfaces will emphasize QBE, SQL, the report writer, the screen painter, the importer-exporter module, *dBASE III* and *Lotus 1-2-3.* Query optimization is a key component of the product, and special attention is being given to performance—in the network version efficiency is greatly enhanced by sending only the exact information needed instead of a whole record or group of records. *Emerald Bay* has entirely dispensed with the *dBASE III* concept of physical files.

The *Emerald Bay* project offers a major advance in interconnecting data and may help bring about the decline of single-purpose applications. It shows considerable promise of eliminating the babel of incompatible information with which the business world must currently contend.

Software Resource™ would like you to meet their

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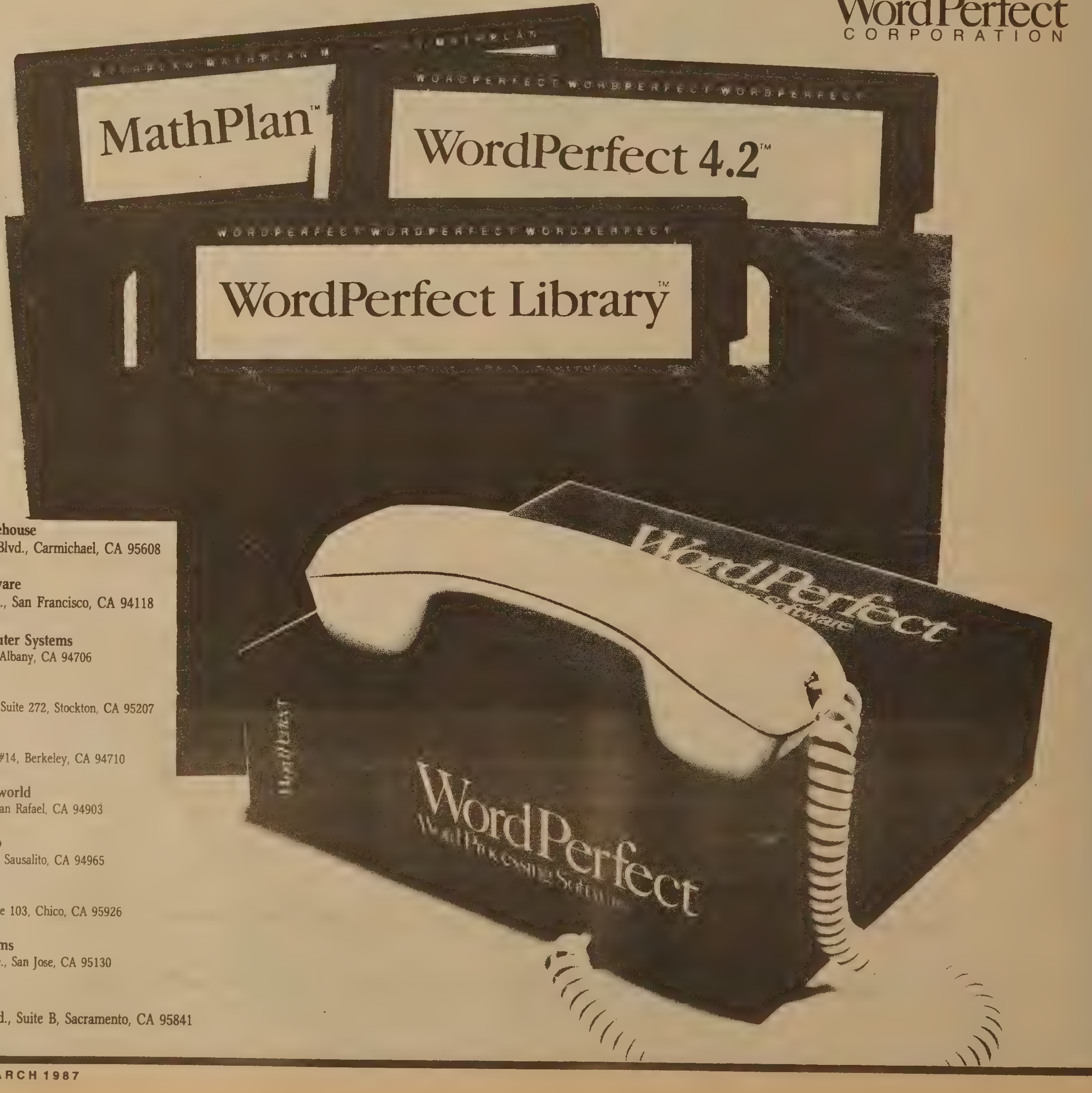

Computer Warehouse
6006 Fair Oaks Blvd., Carmichael, CA 95608
916-971-4930

Access To Software
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415-751-2231

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(916) 345-LANS

DB Micro Systems
5120 Campbell Ave., San Jose, CA 95130
(408) 374-1661

D&G Computer
5051 Auburn Blvd., Suite B, Sacramento, CA 95841
916-344-8666

19a. Please indicate the total number of vehicles in your family. Count cars, vans and pickup trucks and give a brief description of each, as outlined:

Total Number of Vehicles Owned........☐ 67-1

	1st Car	2nd Car	3rd Car
Make	________	________	________
Model	________	________	________
Year	________	________	________

b. Purchased:

New	☐ 68-1	☐ -2	☐ -3
Used	☐ 69-1	☐ -2	☐ -3
Cost	$________	$________	$________

c. If you plan to buy a new car, van or truck in the coming year, how much do you plan to spend?

under $10,000..........	☐	70-1	$20,001-30,000..........	☐	-4
$10,001-15,000..........	☐	-2	over $30,000............	☐	-5
$15,001-20,000..........	☐	-3	not planning to buy.......	☐	-6

d. What are you planning to buy?

American..............	☐	71-1	Italian..................	☐	-5
German................	☐	-2	French..................	☐	-6
Japanese..............	☐	-3	Other (specify) ________	☐	-7
British................	☐	-4			

20. Are you male or female?

Male..................	☐	72-1	Female..................	☐	-2

21. How old are you?

Under 12..............	☐	73-1	35-39..................	☐	-7
12-17.................	☐	-2	40-44..................	☐	-8
18-20.................	☐	-3	45-49..................	☐	-9
21-24.................	☐	-4	50-54..................	☐	-0
25-29.................	☐	-5	55-64..................	☐	-x
30-34.................	☐	-6	over 65................	☐	-y

22. What is your marital status?

Single................	☐	74-1	Divorced/Separated......	☐	-3
Married...............	☐	-2	Widowed................	☐	-4

23a. Please describe your employment status:

Full-time.............	☐	75-1	Unemployed.............	☐	-3
Part-time.............	☐	-2	Retired................	☐	-4

b. Of the following, which best describes the type of work you do?

Medical...............	☐	76-1	Education..............	☐	-7
Legal.................	☐	-2	Retail Sales............	☐	-8
Architect.............	☐	-3	Marketing/Sales.........	☐	-9
Finance/Insurance......	☐	-4	Programming............	☐	-0
Government............	☐	-5	Graphic Arts............	☐	-x
Industrial/Manufacturing...	☐	-6	Industrial Design........	☐	-y

c. And which of the following best describes your position in the company?

Title

President/CEO/Owner.....	☐	77-1	Salesperson............	☐	-7
VP-Marketing/Sales/Advertising	☐	-2	Personnel/Human Resources........	☐	-8
VP-Engineering/Product Development..........	☐	-3	Educator..............	☐	-9
VP-Business/Finance/ Controller............	☐	-4	Clerical/Administrative Asst.............	☐	-0
Purchasing Agent........	☐	-5	Skilled Laborer..........	☐	-x
Dept Head/Middle Management..........	☐	-6	Unskilled Laborer........	☐	-y

24. What is the highest level you completed in school? (Choose 1 only)

Some High School or less..	☐	78-1	College Graduate........	☐	-4
High School Graduate.....	☐	-2	Graduate Degree........	☐	-5
Attended 1-3 Years College.	☐	-3			

25. Counting you and all members of your household, what was your total income, before taxes, in 1986?

Less than $5,000.........	☐	79-1	$40,000-$49,999........	☐	-7
$ 5,000-$9,999..........	☐	-2	$50,000-$69,999........	☐	-8
$10,000-$14,999.........	☐	-3	$70,000-$89,999........	☐	-9
$15,000-$19,999.........	☐	-4	$90,000-$119,999.......	☐	-0
$20,000-$29,999.........	☐	-5	$120,000+.............	☐	-x
$30,000-$39,999.........	☐	-6			

26. If you would like to be able to get your copy of MicroTimes at a location that would be more convenient for you, which of the following would be best for you?

Computer or Software Store	☐	80-1	Restaurant............	☐	-7
Street Rack...........	☐	-2	Name ________		
corner of ________ and ________ city ________			Convenience Stores, like 7/11..............	☐	-8
Bank................. Name ________	☐	-3	Name ________		
User Group........... Name ________	☐	-4	Office Supply Store...... Name ________	☐	-9
School............... Name ________	☐	-5	Other location.......... Name ________	☐	-0
Office Lobby or Cafeteria.. Company Name ________	☐	-6			

address ________________________

city ________________________

27. What is your Zip code? __ __ __ __ __

If you would like to enter the contest for a chance to WIN a Gift Certificate for your choice of $500 in software, fill in the entry blank below and send it along with your fully completed survey to the address below. Thank you and GOOD LUCK!

Name ________________________ Phone ____________

Address ________________________ Apt. No. ________

City ________________ State ________ Zip ____________

Mail your completed survey, postmarked no later than March 10, 1987 to:

L&J Research • P.O. Box 67C26 • Los Angeles, CA 90067

c. How much do you plan to spend on your business computing system(s) in the coming year?

under $2,000 ☐	40-1	$ 20,001-40,000 ☐	-5
$ 2,001-5,000 ☐	-2	$ 40,001-80,000 ☐	-6
$ 5,001-10,000 ☐	-3	$ 80,001-150,000 ☐	-7
$ 10,001-20,000 ☐	-4	$150,000 or more ☐	-8

d. When new, what was the value of your home computing system?

under $500 ☐	41-1	$3,501-5,000 ☐	-5
$ 501-$1,000 ☐	-2	$5,001-7,500 ☐	-6
$1,001-2,000 ☐	-3	$7,501-10,000 ☐	-7
$2,001-3,500 ☐	-4	over 10,000 ☐	-8

e. How much do you plan to spend on your home computing system in the coming year

under $500 ☐	42-1	$3,501-5,000 ☐	-5
$500-$1,000 ☐	-2	$5,001-7,500 ☐	-6
$1,001-2,000 ☐	-3	$7,501-10,000 ☐	-7
$2,001-3,500 ☐	-4	over $10,000 ☐	-8

14a. Of the following software, please indicate whether you own and/or plan to purchase for business or personal use?

are & Accessories ess Software	Business Use		Plan to Purchase for Business		Own for Personal Use		Plan to Purchase for Personal Use	
Accounting	☐	-4	☐	-4	☐	-4	☐	-4
Telecommunications	☐	-5	☐	-5	☐	-5	☐	-5
[illegible]	☐	-6	☐	-6	☐	-6	☐	-6
[illegible]	☐	-7	☐	-7	☐	-7	☐	-7
[illegible]	☐	-8	☐	-8	☐	-8	☐	-8
CAD/CAM	☐	-9	☐	-9	☐	-9	☐	-9
Programming Software	☐	-0	☐	-0	☐	-0	☐	-0
Home Use								
Banking/Accounting	☐	-x	☐	-x	☐	-x	☐	-x
Taxes	☐	-y	☐	-y	☐	-y	☐	-y
Cookbook	☐	44-1	☐	46-1	☐	48-1	☐	50-1
Educational Software	☐	-2	☐	-2	☐	-2	☐	-2
Game Software	☐	-3	☐	-3	☐	-3	☐	-3
Music Software	☐	-4	☐	-4	☐	-4	☐	-4

b. In an average month, how much do you usually spend on blank disks for personal or home use?

under $25 ☐	51-1	$101-200 ☐	-4
$26-50 ☐	-2	$201-300 ☐	-5
$51-100 ☐	-3	$301 + ☐	-6

c. In an average month, how much do you usually spend on blank disks for business or professional use?

under $50 ☐	52-1	$751-1250 ☐	-5
$50-150 ☐	-2	$1251-2000 ☐	-6
$151-350 ☐	-3	$2000 + ☐	-7
$351-750 ☐	-4	none ☐	-8

d. How do you usually buy hardware, software, accessories and supplies?

through local retail store ☐	53-1	direct from manufacturer ☐	-3
mail order ☐	-2	direct from distributor ☐	-4

15. Are you a member of a user-group?

yes ☐ 54-1 no ☐ -2

If yes, which one? Name ____________________

Address ______________ City ______________

16a. Which of the following items do you personally own and/or plan to purchase in the coming year:

Home Stereo	**Own**		**Plan to Purchase**	
Cartridge/Stylus	☐	55-1	☐	56-1
Turntable	☐	-2	☐	-2
Receiver	☐	-3	☐	-3
AM/FM Tuner	☐	-4	☐	-4
Amp/Pre-Amp	☐	-5	☐	-5
Stereo Cassette Recorder	☐	-6	☐	-6
Portable Stereo	☐	-7	☐	-7
Stereo Reel to Reel	☐	-8	☐	-8
Headphones	☐	-9	☐	-9
Record Cleaning	☐	-0	☐	-0
Compact Disc Player	☐	-x	☐	-x

b. What was the value of your stereo system when it was new?

less than $500 ☐	57-1	$1,501-2,500 ☐	-4
$500-1000 ☐	-2	$2,501-3,500 ☐	-5
$1,001-1,500 ☐	-3	over $3,501 ☐	-6

c. Video Equipment	**Own**		**Plan to Purchase**	
Color Console TV	☐	58-1	☐	59-1
Color Portable TV	☐	-2	☐	-2
VHS Cassette Recorder	☐	-3	☐	-3
Laser Disc	☐	-5	☐	-5
Projection TV	☐	-6	☐	-6
Video Camera	☐	-7	☐	-7
35mm Camera	☐	-8	☐	-8
Camera lenses/Accessories	☐	-9	☐	-9

d. What was the value of your video system when new?

under $500 ☐	60-1	$2,001-3,000 ☐	-4
$501-1,000 ☐	-2	$3,001-4,500 ☐	-5
$1,001-2,000 ☐	-3	over $4,501 ☐	-6

17. Please show how many of the following items you purchased last month:

Audio Cassettes		**Video Cassettes**	
Blank 1-2 ☐	61-1	Blank 1-2 ☐	63-1
3-6 ☐	-2	3-5 ☐	-2
7-12 ☐	-3	6-10 ☐	-3
13-24 ☐	-4	10 + ☐	-4
25 + ☐	-5	Pre-Recorded 1-2 ☐	64-1
none ☐	-6	3-5 ☐	-2
Pre-Recorded 1-2 ☐	62-1	6-10 ☐	-3
3-5 ☐	-2	10 + ☐	-4
6-10 ☐	-3		
11-15 ☐	-4		
16 + ☐	-5		
none ☐	-6		

18. Please indicate which of the following you drink or serve regularly, as follows:

	Personally Drink		**Serve at Home Regularly**	
Red Wine	☐	65-1	☐	66-1
White Wine	☐	-2	☐	-2
Domestic Beer	☐	-3	☐	-3
Imported Beer	☐	-4	☐	-4
Vodka	☐	-5	☐	-5
Bourbon, Canadian, Rye Whiskey	☐	-6	☐	-6
Scotch	☐	-7	☐	-7
Rum	☐	-8	☐	-8
Gin	☐	-9	☐	-9
Tequila	☐	-0	☐	-0
Pre-Mixed Cocktails	☐	-x	☐	-x
Cordial or Liqueur	☐	-y	☐	-y

5. How many of the last four issues have you read of the following magazines?

	Never Read	Read 1 out of 4	Read 2 out of 4	Read 3 or 4 out of 4
A+	☐ 13-1	☐ 15-1	☐ 17-1	☐ 19-1
Ahoy	☐ -2	☐ -2	☐ -2	☐ -2
Amiga World	☐ -3	☐ -3	☐ -3	☐ -3
Byte	☐ -4	☐ -4	☐ -4	☐ -4
Compute!	☐ -5	☐ -5	☐ -5	☐ -5
Computer Retail News	☐ -6	☐ -6	☐ -6	☐ -6
Computer Shopper	☐ -7	☐ -7	☐ -7	☐ -7
ComputerWorld	☐ -8	☐ -8	☐ -8	☐ -8
Datamation	☐ -9	☐ -9	☐ -9	☐ -9
Family Computing	☐ -0	☐ -0	☐ -0	☐ -0
Infoworld	☐ -x	☐ -x	☐ -x	☐ -x
Lotus	☐ -y	☐ -y	☐ -y	☐ -y
Mac User	☐ 14-1	☐ 16-1	☐ 18-1	☐ 20-1
Macazine	☐ -2	☐ -2	☐ -2	☐ -2
Macworld	☐ -3	☐ -3	☐ -3	☐ -3
Nibble	☐ -4	☐ -4	☐ -4	☐ -4
PC	☐ -5	☐ -5	☐ -5	☐ -5
PC Week	☐ -6	☐ -6	☐ -6	☐ -6
PC World	☐ -7	☐ -7	☐ -7	☐ -7
Personal Computing	☐ -8	☐ -8	☐ -8	☐ -8
Wall St. Journal	☐ -9	☐ -9	☐ -9	☐ -9
Forbes	☐ -0	☐ -0	☐ -0	☐ -0
Fortune	☐ -x	☐ -x	☐ -x	☐ -x
Business Week	☐ -y	☐ -y	☐ -y	☐ -y

6a. In the last month, which of the following have you read?

Bay Guardian	☐ 21-1	Computer Currents	☐ -7
East Bay Express	☐ -2	City Sports	☐ -8
L.A. Weekly	☐ -3	SF Focus	☐ -9
L.A. Reader	☐ -4	California Magazine	☐ -0
Bay Area Business Magazine	☐ -5	California Business	☐ -x
Metro	☐ -6	BAM Magazine	☐ -y

b. Of these, which do you read most often? ________________

And why? ________________

7a. How many times per week do you read the daily paper?

1	☐ 22-1	5	☐ -5
2	☐ -2	6	☐ -6
3	☐ -3	7	☐ -7
4	☐ -4	Never Read	☐ -8

b. Which daily papers do you read?

L.A. Times	☐ 23-1	S.F. Examiner	☐ -6
The Daily News	☐ -2	San Jose Mercury	☐ -7
L.A. Herald Examiner	☐ -3	Contra Costa Times	☐ -8
Orange County Register	☐ -4	Other (specify) ________	☐ -9
S.F. Chronicle	☐ -5		

8a. Please list the 3 radio stations you listen to most often. (In order of most listened to)

1. ________________
2. ________________
3. ________________

b. How much time do you spend listening to radio on an average weekday?

less than 30 minutes	☐ 24-1	up to 90 minutes	☐ -3
up to 60 minutes	☐ -2	up to 2 hours or more	☐ -4

c. Which of the following best describes your listening habits? (Check as many apply)

I listen to news radio	☐ 25-1	I am loyal to my favorite station	☐ -7
I listen to music radio	☐ -2	I "tune out" all the commercials	☐ -8
I listen when I'm in my car	☐ -3		
I listen when I'm at work	☐ -4		
I listen when I'm at home	☐ -5		
It's in the background all the time	☐ -6		

10. In the last month, how many times did you dine at a restaurant, spending over $30.00 for two?

1-2	☐ 26-1	11-15	☐ -4
3-5	☐ -2	16+	☐ -5
6-10	☐ -3	none	☐ -6

11. In the past year, how much did you spend on clothing for yourself?

under $750	☐ 27-1	$2001-3000	☐ -4
$751-1250	☐ -2	over $3001	☐ -5
$1251-2000	☐ -3		

12. How many round-trips, by plane, did you take in the last 12 months?

a. for business?

1-3	☐ 28-1	16-24	☐ -4
4-8	☐ -2	25 or more	☐ -5
9-15	☐ -3	I did not fly	☐ -6

b. for pleasure?

1-3	☐ 29-1	16-24	☐ -4
4-8	☐ -2	25 or more	☐ -5
9-15	☐ -3	I did not fly	☐ -6

13. Which of the following kinds of computer hardware do you own and/or plan to purchase for business or personal use?

Computer Hardware	Company Owns	Plan to Purchase for Company	Own for Personal Use	Plan to Purchase for Personal Use
Mini Computer Office System	☐ 30-1	☐ 32-1	☐ 34-1	☐ 36-1
IBM PC/XT/AT or PC Compatible	☐ -2	☐ -2	☐ -2	☐ -2
IBM PC Portable or compatible	☐ -3	☐ -3	☐ -3	☐ -3
Apple II, II+, IIe, IIc	☐ -4	☐ -4	☐ -4	☐ -4
Apple Macintosh	☐ -5	☐ -5	☐ -5	☐ -5
Apple Macintosh PLUS	☐ -6	☐ -6	☐ -6	☐ -6
Tandy (Radio Shack)	☐ -7	☐ -7	☐ -7	☐ -7
Amiga	☐ -8	☐ -8	☐ -8	☐ -8
Atari ST	☐ -9	☐ -9	☐ -9	☐ -9
Hewlett-Packard	☐ -0	☐ -0	☐ -0	☐ -0
DEC	☐ -x	☐ -x	☐ -x	☐ -x
UNIX Based System	☐ -y	☐ -y	☐ -y	☐ -y
Home System Under $1000	☐ 31-1	☐ 33-1	☐ 35-1	☐ 37-1
Hard Disk	☐ -2	☐ -2	☐ -2	☐ -2
Memory Upgrade	☐ -3	☐ -3	☐ -3	☐ -3
Monitor	☐ -4	☐ -4	☐ -4	☐ -4
Dot Matrix Printer	☐ -5	☐ -5	☐ -5	☐ -5
Daisy Wheel Printer	☐ -6	☐ -6	☐ -6	☐ -6
Laser Printer	☐ -7	☐ -7	☐ -7	☐ -7
Modem	☐ -8	☐ -8	☐ -8	☐ -8
Local Area Networks	☐ -9	☐ -9	☐ -9	☐ -9
MIDI/Music Interface	☐ -0	☐ -0	☐ -0	☐ -0
Memory Add-On Boards	☐ -x	☐ -x	☐ -x	☐ -x
Graphics cards	☐ -y	☐ -y	☐ -y	☐ -y

a. Do you plan to purchase any of the above within the next 90 days?

Yes	☐ 38-1	no	☐ -2

b. How much did you spend on computer products for your business last year?

under $2,000	☐ 39-1	$ 20,001-40,000	☐ -5
$ 2,001-5,000	☐ -2	$ 40,001-80,000	☐ -6
$ 5,001-10,000	☐ -3	$ 80,001-150,000	☐ -7
$ 10,001-20,000	☐ -4	$150,000 or more	☐ -8

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Help us make a better magazine for you by telling us a little about you and your lifestyle. Your fully completed survey automatically enters you for a chance to win!

Mail your completed survey, postmarked no later than March 10, 1987 to:

L&J Research
P.O. Box 67C26
Los Angeles, CA 90067

Only one entry per person or subject to disqualification.
No purchase necessary
Winner picked by random drawing and notified by mail.
Decision of judges is final
Employees of MicroTimes or L&J Research are ineligible.

Please indicate each of your answers by placing an "X" in the box or writing in on the line provided.

1. Excluding this issue, how many of the last four issues of MicroTimes Magazine have you read?

4 out of 4 ☐	7-1	0 out of 4 ☐	-5
3 out of 4 ☐	-2	New Reader ☐	-6
2 out of 4 ☐	-3	Regular Subscriber ☐	-7
1 out of 4 ☐	-4		

1b. Where did you pick up this issue of MicroTimes?

Computer Store ☐	8-1	Office Lobby ☐	-7
News Rack ☐	-2	got it from a friend ☐	-8
Bank ☐	-3	Library ☐	-9
User Group Meeting ☐	-4	Other Store ☐	-0
School ☐	-5	mailed direct to you ☐	-x
I subscribe ☐	-6		

2a. How many different times did you read or look into the last issue you read?

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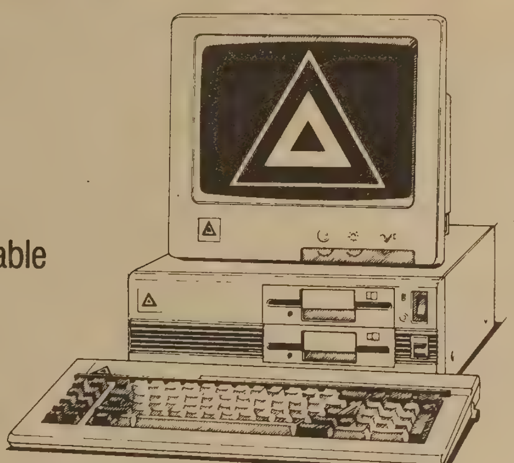

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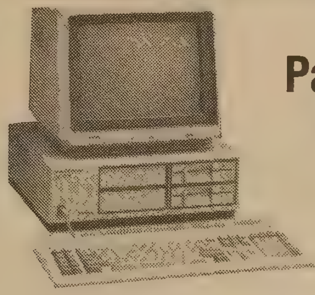

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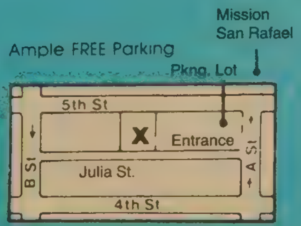


The Zenith Z-181 Portable

A Revolution In Laptop Computers

By David C. Keith

Ever since the first 40-pound, so-called "Portable IBM-PC Compatible Computers" came on the scene about four years ago, globe-trotting journalists have been anxiously waiting for a machine which was truly portable, and which also qualified as a real computer. This meant that, as a minimum, it should have two full-capacity drives, as much memory as a desktop computer, the ability to run off batteries for a reasonable time, and a screen that was just as easy to read as the CRT on our desktop computers. For over a year now we have had several computers which adequately satisfied most of these requirements, but the readability requirement (in concert with the battery-operable requisite) has been notably lacking until the advent of the revolutionary Zenith Z-181 Laptop Computer.

At the recent COMDEX show in Las Vegas, several laptops sporting the new "Super Twist" LCD screens were introduced. Several even provided electro-luminescent backlit screens. The Zenith Z-181, however, was the only machine displayed which took that extra step and included a full aspect ratio, 10½" diagonal screen. With its inverse-video, brilliant blue letters on a white backlit screen, the Zenith is fully as readable as a standard CRT monitor. In fact, there appears to be enough room in the keyboard cover, which smoothly supports the screen through a full 150-degree viewing angle, to hold a full-size 12" LCD screen as soon as they become available. The very high 12-to-1 contrast ratio permits clear viewing well away from screen center. Using the PC Labs (*PC Magazine*) CGA Monitor Tests, we found that the circles were perfect, rather than squashed ovals, and the Grid Linearity Test showed ruler-straight lines to all four corners of the screen. The display actually appears somewhat sharper and more readable than a CGA monitor. Certainly the screen characters are more solid than those on the low-resolution IBM color screen.

Other PC Labs tests showed that the Zenith executed all Processor Speed Tests at the same speed as a 4.77 MHz IBM PC. Sequential File Speed Benchmark Tests were every bit as fast as those in our transportable XT-compatible machine, although the Random Access Tests were somewhat slower. We were informed that the drives could be speeded up even further, but would then drain limited battery power much more rapidly as a consequence. The drives on the production model are noticeably faster than those on our previous beta test model.

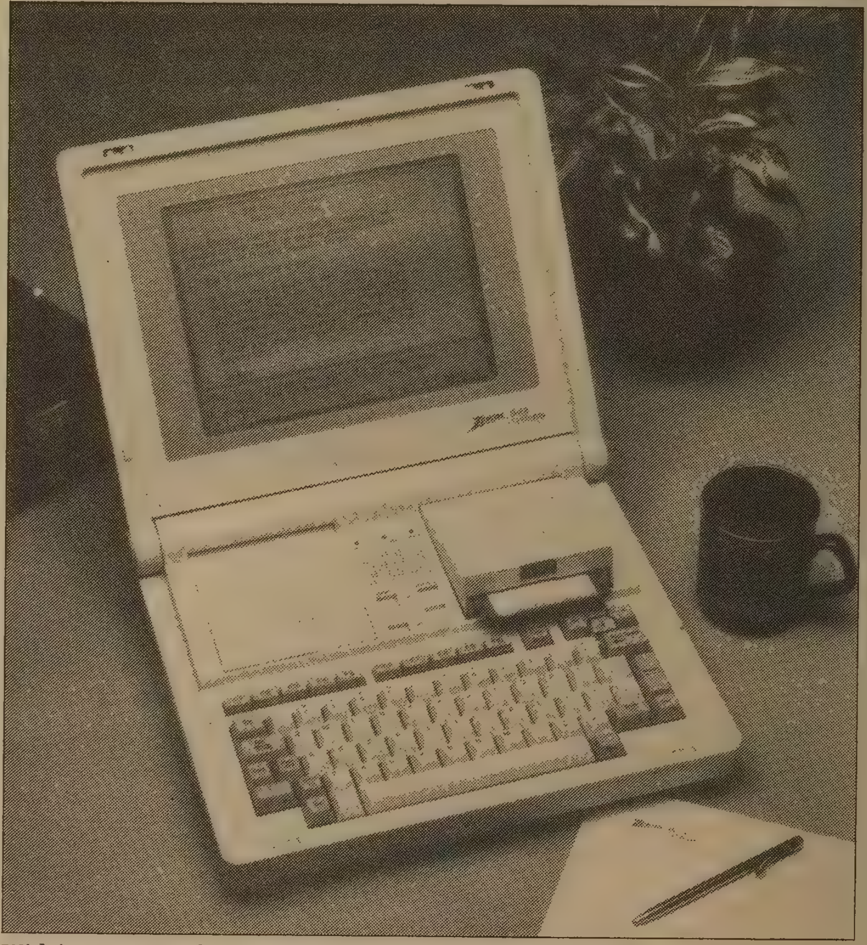
The Z-181 has the now obligatory 3½", twin 720K disk drives, full 640K Random Access Memory, RGB port, parallel port and serial port (XT-type, DB-25 connector no less), external disk-drive connector, optional 8087 floating-point math co-processor and optional, internal 300/1200 baud modem ($399 additional). The external connectors are nicely hidden behind a snap-up rear cover.

It should be noted, however, that, in order to save battery power, the RS-232C serial port does not provide power for external devices such as mice. The user will have to locate a mouse with an external power source in order to manipulate graphics on the Zenith's excellent 640 × 200 pixel screen.

In tests with a beta test unit and with a production Z-181, we found that the CGA compatible machine was able to run a wide range of graphic games and business software without a hitch. Running a screen attribute program, the Zenith demonstrated its dexterity by displaying various shades of blue to represent different colors. When an RGB monitor was connected to the appropriate rear connector, a full 16 text colors were available via a simple keyboard toggle.

Which leads to what is probably the major shortcoming of the otherwise excellent Z-181 — the 75-key keyboard. To start with, the **[Ctrl]**, **[Caps Lock]**, **[Alt]**, and left **[Shift]** keys, along with a new key called **[Fn]**, are all grouped in a rather tight bundle at the lower left of the keyboard. It is very easy to hit a wrong key, or perhaps two at once. And if you find yourself shifting back and forth between a regular table-top PC and the Z-181, it could get very confusing. And the little blue **[Fn]** key? Pressing this key permits the **[Pause]** key to serve as a **[Num Lock]** key (I could find no description of the purpose of the **[Pause]** key in the rather limited Owner's Manual); the **[Scroll Lock/Break]** key to pinch hit as the **[PrtSc]** key; and the four cursor keys to double for **[Home]**, **[End]**, **[PgUp]** and **[PgDn]** keys. The only combination that really caused any awkwardness in our test was the double duty **[Del]**/**[Ins]** key. The cursor keys also proved to be rather awkward to use, primarily because they are shallower keys than the regular alpha/numeric keys, and the user must reach over and down behind the **[Back Space]** key to get to them. We found the keyboard layout of the NEC Multi-Speed much more familiar and easy to use, although its reduced-aspect, somewhat lower-contrast screen fell short of that on the Zenith.

The numeric keypad shares positions with the regular alpha/numeric keys and will not really serve as an adequate substitute for a real numeric keypad. To access the keypad you must hold down the **[Fn]** key while depressing the **[Num Lock]** key. If you simply hold down the **[Num Lock]** by itself following keypad use, the keypad keys become temporarily disabled and do nothing. An optional, external numeric keypad would be nice.


With its exceptionally readable screen and other useful features, the Zenith Z-181 laptop represents a major advance in the portable computer field.

The Z-181 weighs in at a respectably svelte 11.8 pounds including the rechargeable NiCad battery and a built-in real-time clock. It uses a standard CMOS 8088 CPU which we tested out at 4.74 MHz, and can run about five hours on a full charge, assuming minimal disk access. To help conserve power, the back light automatically turns off following two minutes of keyboard inactivity.

So perhaps the Zenith Z-181 Laptop computer isn't perfect yet—some of us are never satisfied. A hard disk would be nice, and a faster processor wouldn't hurt. We've heard that one or both of these improvements may be on the way shortly. Keyboard gripes aside, Zenith has put together a truly revolutionary computer — a lightweight, true portable which really does have all of the power of your friendly tabletop PC, and is just as comfortable to look at all day. ☐

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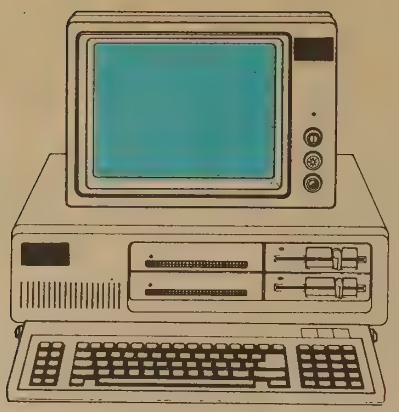

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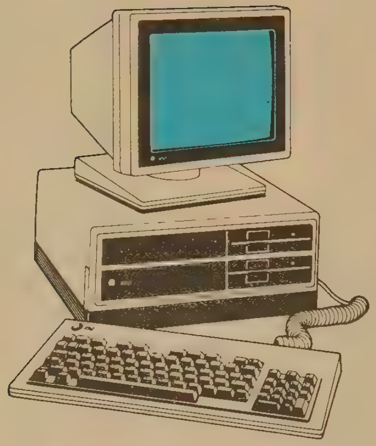

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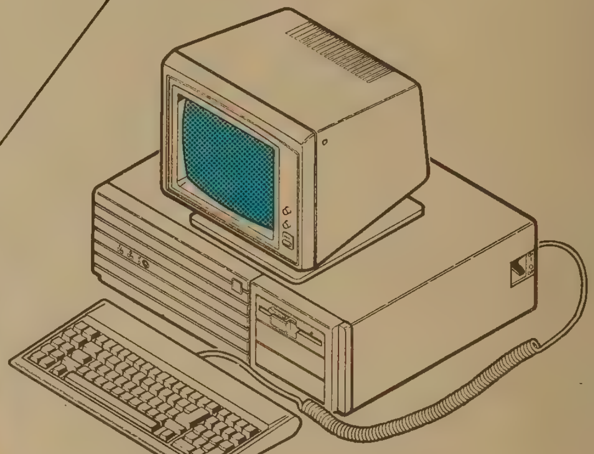

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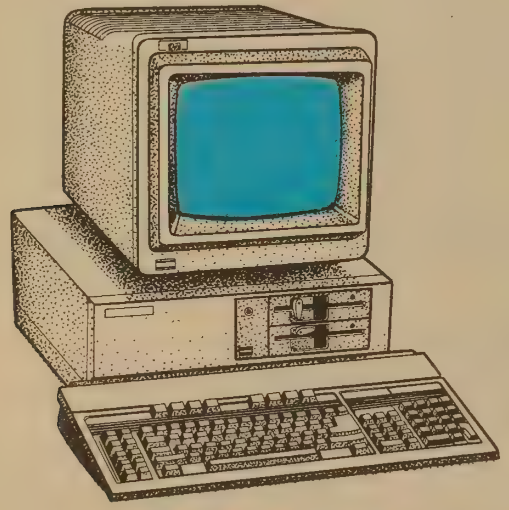

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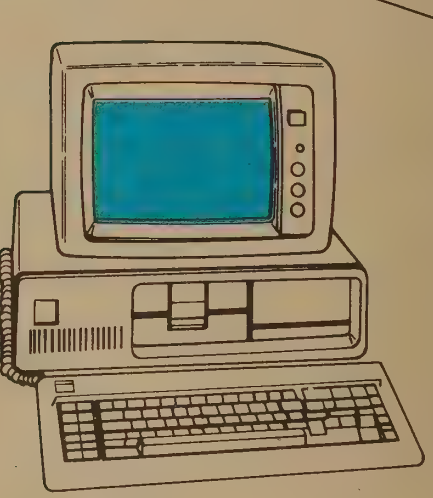

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CP/M

The User Group: What's In It For You?

By Robert D. Athey Jr.

I get calls (at least one a month) about the problems beginners encounter. Many of them are jargon-related, having to do with the still all-too-opaque language in which much computer and software documentation is written; others are fundamentally similar difficulties with getting this program or that piece of equipment to work properly.

In former times, the individual hardware or software manufacturers were probably the best source of support for such questions. Nowadays, with relatively few CP/M-based machines being manufactured and many software companies discontinuing their CP/M lines, it's often more helpful to take your problem to the local user group.

The user group is a social milieu. As you wander about within the mass of people, you will hear some conversations you find absolutely unintelligible, and other conversations on topics of critical interest to you, because you use your computer in exactly that way. You'll pick up useful bits of information like the one I was surprised to hear in one session—that some programs don't work on all computers of the same brand and operating system because either the manufacturer changed the ROM that booted up the machine to include some new quirks in the CP/M, or the newer versions of the computer have a different character set, to include graphics characters not in the original machine, or for some other insufficiently publicized reason. There were, for instance, many changes in the Kaypro computers manufactured during 1984. Another example—a standard FORTRAN command I tried to use on the TRS-80 Model II did not work (costing me two weeks of debugging attempts), while it worked without difficulty on the TRS-80 Model III. You hear many new questions about things you'd never thought of using a computer for, and many older problems revisited.

In the early days of the East Bay user group I frequent, "experts" wearing pseudo-straw hats emblazoned with their consultation specialty would hold forth on spreadsheets, word processing, modems, or printers. As life has become more complicated, this practice has fallen by the wayside—the number of programs out there, and the differences among them, are now so great that you really have to ask specifically about who can help you on what program.

Probably the most important facet of the user groups is their support of those machines whose manufacturers are either out of business or no longer supporting that particular model. Users of those computers could feel completely abandoned, but the user group offers continuing help—tips on using the computer, where to get an upgrade kit, where the repairs are done reliably, etc.

It is not particularly important that user groups gather according to the operating system they use, or even the brand of computers they use. As I see it, the user group's greatest utility is its offer of help to any and all who come in with a computer problem, be it assembly language programming, *WordStar* (in any operating system, a bear to use), *dBASE* (another bear) or spreadsheets. Then again, the user group offers social interaction, especially for the person who works at home.

EVERYBODY CONTRIBUTES, EVERYBODY BENEFITS

There is a "quid pro quo" for the benefits you get from the user group. The key point is that you have some experience you can share with the group, whether it's a new little program you found on an RBB (or wrote yourself), or a bear of a problem you haven't been able to solve. The problems brought to the user groups are generally not new or unique, and a more experienced user probably beat the problem once before. Indeed, you may get several suggestions, all useful.

Not only are you able to share your problems or program tips, but you can offer your help to the group in other ways. There are a dozen little jobs the group needs done, from booth manning at a computer show to copying disks for the library to writing a summary of the group's last meeting for the newsletter to reviewing a new public domain program for the library. (The good libraries always check out the program to make sure it does what it claims to do without making the computer go haywire in the process.)

The cost of the user group varies a bit. It will range from $10 a year on up, depending on the services the particular group offers and its expenses. Some groups are national (e.g. FOG, the First Osborne Group, and NATKUG, National Kaypro Users Group), while others (such as HayPros for Hayward Kaypro users, and PenKug for Kaypro users on the Peninsula) concentrate on a local area. The national groups tend to emphasize their publications, while the local groups hold regular meetings and might not even have a newsletter.

THE PUBLIC DOMAIN LIBRARY

Most groups have disks of public domain software they sell at meetings (or by mail, in some cases). How does the new user know what public domain software to buy?

This column helps to some degree, though there are only about six of the PD programs I use with any regularity. The user group newsletters usually have descriptions of the upgrades on PD software, as the upgrades come out. User group booths at computer fairs often have a computer for demonstration of the programs, and will often sell the programs right there.

Steve Willett, CP/M Librarian for BAKUP, has an interesting variation on PD program disks offered to users. He has "DISK #0," which he calls "Greatest Hits," for new users. This disk has all very useful PD programs in their latest release version with documentation. He continually updates that particular disk. It includes the PD programs I use the most (*NEWSWEEP, SD*, the alphabetically sorted directory and disk space display, *FINDBAD, UNERASE*, and *NULU*).

The latest issue of *Microcornucopia* has a reference to Robert Froelich's *Free Software Catalog And Directory* from Crown Publishers (1 Park Ave., NY 10016), while most user groups have their own index of their PD libraries. The printout of the BAKUP index of its 46+ disks can be obtained from Steve Willett (415/849-3025) for a dollar. NATKUG publishes its disk indexes in its newsletter, as new disks are issued.

A correction to information in the last column —if you order disks from the BAKUP PD software library by mail, the price is 50% higher than if you buy them at meetings ($1.50 and $7.50 instead of $1.00 and $5.00.)

EVOLUTION CONTINUES

A new wrinkle in the "user group" concept is the National Association of Computer Professionals. Professional memberships are $250, but the organization allows non-professionals to have an "Associate Membership" for $50. It's expensive, as user groups go, but they offer telephone aid, buyer discounts, software library and user exchange privileges. The professional members are listed in a directory, and have support services available (such as secretarial and answering service, business cards, etc.) along with a walnut grained wall plaque...

It's been said that the user groups are dying out, especially the CP/M groups. There is indeed less activity than there was three years ago, and memberships are falling off. But new members continue to enroll, as they buy their first computer—a used one—for the writing they have always wanted to do. They are finding a welcome with such things as the "New Users Class" set up by Dennis Becker in BAKUP. There are special interest groups (aka SIGs—more jargon) for medicos, lawyers, real estate agents, FORTH or PASCAL programmers, and just about any other speciality you can think of.

So look at the back pages of *MicroTimes*, find where and when the next group meets, and go-go-go. You'll find the joy of discovery, commiseration for the bad disks or programs, and more help than you'll ever use. In a good group, you'll find the empath and the antagonist, both making for a good feeling and good thinking. ☐

Bob Athey has over 20 years of experience working on computers and runs his own company on chemical consulting and contract research. He can be reached through MicroTimes or at (415) 526-3541.

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PC SYSTEMS

Productivity Peripherals

By Ken Milburn

You bought your PC so that you could get more done in less time. If you've had it for long, you know that speed spoils. Repeatedly waiting for the computer, even if it takes only a few seconds, quickly becomes intolerable. Or at least annoying. Even if you've moved up to an AT or 386 PC, you start getting annoyed with yourself for not being able to move faster. After all, time is money. Keeping that adage in mind, I've been on a quest for accessory hardware that speeds up my interaction with the machine.

LOOK MA, NO HANDS

One of the culprits most responsible for slowing me down is the necessity of typing. I type pretty fast, but it's never fast enough. One of the quickest and easiest ways to eliminate some of the typing is with a "macro" program like *ProKey* or *SuperKey*. You "teach" it to play back a series of keystrokes whenever you hit the key assigned to that series. The series of keystrokes can be of almost any length and can represent anything you'd type on the keyboard. Once loaded, the program stays in memory, so it can be used in conjunction with most any active application; you can strike a key and automatically execute a long series of commands, or have the computer automatically type three paragraphs of "standard" text into a business letter.

Macro software is such a powerful productivity tool that the capability is being built into more and more application software. Nevertheless, a stand-alone memory resident program has the advantage of providing you with a consistent macro command interface for all your applications. It's also likely to have more flexibility than the built-in variety.

The leading keyboard re-definition (macro) programs are Alpha Software's *Keyworks*, RoseSoft's *ProKey* and Borland International's *SuperKey*. My personal preference is for *SuperKey* because its pull-down point-and-click menus make it so easy to remember how to operate some of the program's more sophisticated (and therefore rarely used) options.

Keystroke memorizers have become so popular that some new varieties are emerging—programs that already have a good many words and phrases entered for you. Two examples that come to mind are *PRD Plus* from Productivity Software International and *MindReader* from Businessoft, Inc.

PRD Plus lets you assign keystrokes to abbreviations. As soon as you type the abbreviation, *PRD* replaces it with the assigned key sequence. The difference between *PRD* and most macro programs is that there are no control keys to keep track of, and the abbreviations are easy to remember, so it's practical to have hundreds of them. So if I type "cptr," *PRD* instantly replaces it with "computer." Or, if I type "pcc" it displays "IBM/PC/XT/AT and compatible computers."

By contrast, *MindReader* is a word processor that does most of your typing for you. Whenever you start typing a word, *MindReader* tries to guess what you mean, popping up a windowed list of the words that are the most likely candidates. Of course, if you're a very fast typist, you can often type the words faster than you can make the selection from a list. Fast typists have to get used to the program by learning to ignore the listed suggestions until a word is long enough to save significant time. Once I'd learned to do that, I found it a great tool for taking dictation whenever I needed to interview people for articles on the phone.

If you're not a touch typist, *MindReader's* a real boon. It's also great for those who are still intimidated by computers. All the commands for the program are executed with the function keys, and their use is mapped out for you on the screen at all times.

As word processors go, *MindReader's* not very sophisticated. Some "standard" operations, like inserting text and moving, copying and deleting marked blocks are awkward, at best. If you're a fairly seasoned user (or if your word processing requirements are complex), I suggest you do your typing in *MindReader*, then edit in your favorite word processor. But there are some advanced features. You can draw, do math in a pop-up calculator and squirt the result into your document, pop-up a quick look at this month's calendar, and do word jumbles. You can also split up the screen into two windows for editing different parts of the same document concurrently.

IT'S IN HERE SOMEPLACE

Another way of saving keystrokes is to re-use information that's already been entered in to your system. Sometimes you've entered information into your spreadsheet that you need to include in a letter. You can use data you've received from another computer. Or perhaps you've got a database report you'd like to include in a bid or proposal. The problem is, most programs store data in their own unique format or intersperse text with unique "control codes" that would garbage up your hard copy.

Once upon a time, it was difficult to get clean data out of one format and into another unless you were an experienced programmer. Most of the current generation of programs include file conversion utilities that let you ship data to and from at least a few popular programs made by other manufacturers. At worst, you may have to transfer the file to the format of a program you don't own, then import it to its destination. For instance, I use the *Smart* spreadsheet for systems costing and client billing. *WordPerfect*, my choice for word-processors, doesn't read *Smart* files, but it does read files from *Lotus 1-2-3*. So all I need to do is have *Smart* convert the file to *Lotus'.WKS* file, then have *WP* convert it to its own format. Then I can incorporate the spreadsheet into the text for my Client Needs Analysis report.

Another option is to convert the source data to straight ASCII text. ASCII is the format that all computers use to recognize plain vanilla keyboard characters. Again, most programs will have an ASCII file conversion utility, but failing that, look in the printing commands for a way to "print to disk." The result will be an ASCII file with the text formatted just the way it would look on paper, with all the control codes stripped out. If all else fails, try reading in the raw source file. Chances are, the originating program doesn't convert to ASCII because it creates the file that way in the first place.

SCISSORS AND GLUE

An even more direct method for getting information from one place to another is "cutting and pasting." In order to do this, you need to use a memory resident program like *SideKick* or *Instant Recall*, or a multi-tasking environment like *DesqView* or *Windows*. Why? Because you need to load the program with the source information, cut out the piece you need, unload the source application and reload the destination application, then paste the captured text to its destination. In between loading applications, a "clipboard" has to stay present in memory to hold your text.

Instant Recall is a simple text database that pops up with a "hot key" like *SideKick*. I keep it running on my computer at all times (except when using high-resolution graphics programs). That way, I can make an ad hoc note about anything that crosses my mind. Later, I can retrieve all the notes relating to a specific subject by typing in a few keywords. Not only will Instant Recall cut and paste, but you can keep the clipboard information as part of the regular data file and recall it later for use in other documents.

Hardware can save your fingers, too. One of the most frequently repeated keystrokes is pressing the arrow keys that move your cursor to the next point for input and editing. Arrow keys can't move the cursor any faster than your keyboard repeats, which can be gratingly slow if you're editing a lot of text. Eliminating that one hangup saves me about 25% of the time I spend editing.

Any pointing device (mouse, digitizing pad, joystick) will do the job. The best compromise between cost and effectiveness in pointing devices is a good mouse. I've mentioned the Logitech C7 Plus that I use in previous columns. Its programmability has been improved since I last wrote about it, and there are now pre-programmed templates for most of the popular

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Ken Milburn is a freelance writer on Microcomputers. His articles have appeared in numerous computer publications, including PCWorld, InfoWorld, Computer Graphics World *and* MicroTimes. *He also does system configuration for small businesses. He can be reached at (415) 331-6296 or by sending E-mail to (ken) on The WELL, (415) 332-6106.*

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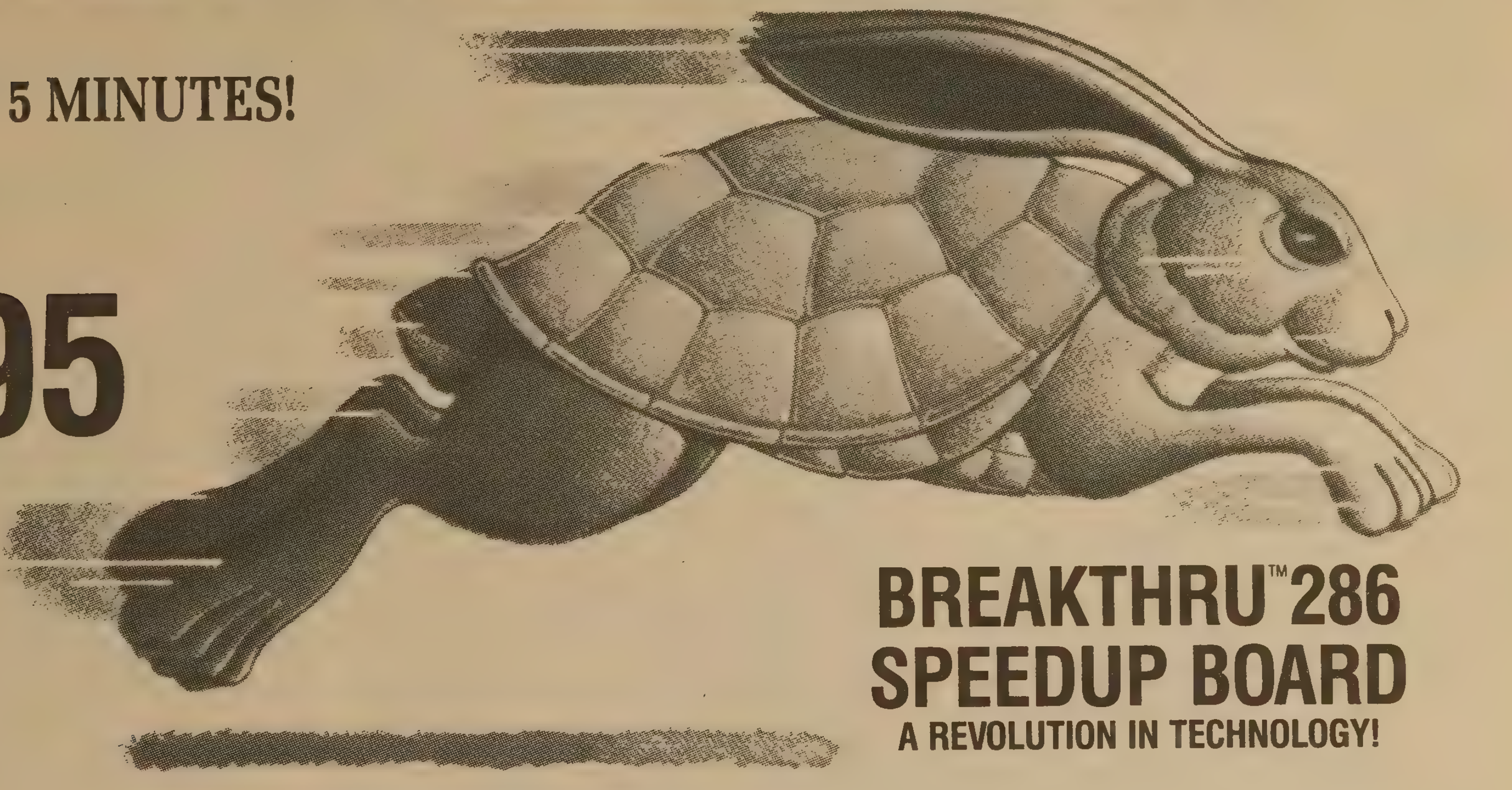

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	Victor	IBM AT	BREAKTHRU 286
Clock Speed in MHz	7.15	6	8
Empty Loop	2.81	1.99	3.34
Integer Add fr. mem.	3.74	3.35	4.41
Integer Mult. fr. mem.	5.78	6.06	6.55
Fl. pt. w/out coproc.	3.63	3.33	4.42
Fl. pt. w/8MHz cop.	1.65	n/a	1.82
Prime number test	2.47	1.95	2.85
Lotus 123 macro (640K)	3.16	2.64	3.69
Lotus 123 macro (256K)	3.07	1.77	3.54
Norton System Info Test	6.54	5.73	7.34

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business applications that include pull-down menus. Logitech has also made the C7 available as a bus-mouse, just in case you don't want to use one of your serial ports.

Key Tronic's model 5153 sports a built-in "touch pad." It's really a miniaturized digitizing pad that replaces the numeric keypad. It can serve several purposes: (1) Cursor key emulation, (2) Additional function keys, (3) Mouse emulation (4)Tracing/drawing pad. Although these are the same functions bit-pads traditionally provide, the advantage of this one is that it's built right into the keyboard. That means that it doesn't take up much extra space on your desktop, you don't have to worry about where to store it when it's not being used, and you don't have to take your hands very far away from the typing keys when you need to use it. Besides, it costs about half what most digitizing pads sell for, and you get a better than average keyboard in the bargain.

The sad news is that the 5153 is incompatible with many of the AT clones. It will work with Compaq's 286 and 386, and DeskPro's and Sperry's IT Extra. Machines with older Phoenix ROM/BIOS are a definite no-no. If in doubt, test before buying.

The modes I find most useful are the mouse and function key modes (and it's possible to combine the two). The touchpad emulates the Microsoft Mouse, so it works with *Windows*, *Microsoft Word*, *AutoCAD* and just about any other mouse-based application.

Unfortunately, Key Tronic doesn't provide any way to program the mouse for pull-down menus or for operation with any non-mouse business applications like *WordPerfect* or *Lotus 1-2-3*. That's where the function-key capability comes in, though. In this mode, 36 programmable function keys are added to the ten you've already got on an IBM keyboard. This is almost a necessity if you want to use some programs (like *MultiMate Advantage*) with a macro program (like *SuperKey*). That's because *MultiMate*, like a few other programs, assigns a special purpose to all but one of the existing keys. More importantly, you can use the 36 function keys to automate operations that you constantly repeat. I've made a *WordPerfect* 4.2 template that can perform my most used command sequences with a single touch of the pad. And I've written the use of each key on the paper template, so I don't have to remember what it does.

The uses I've put these keys to are too numerous to mention, but here's an example of the kind of time you can save yourself. As a writer, I'm often typing in information as I find it, then reading all the files into the same document, rearranging and editing the comments so that the whole thing reads smoothly from top to bottom. The key sequence for marking and moving a paragraph in WordPerfect is: **<Alt F4>** (Turn "block" on), **<Enter>** (Mark to the end of paragraph), **<Ctrl F4>** (Block menu), **<1>** (Cut the block). Then you have to move the cursor to the location where you want the cut block to reappear and press: **<Ctrl F4>**, **<5>** (Retrieve text).

Here's the way I do it using the Key Tronic touch pad: I type three asterisks at the beginning of my collated document. Then I use the "Search" key to find the first paragraph I want to use. I press the keypad square marked "re-order para" on the keypad. The paragraph is automatically moved a couple of keystrokes ahead of the asterisks, so that they are always the last items in the article. One stroke of the keypad has replaced twelve *WordPerfect* keystrokes and completes the operation in a fraction of the time it would take to do it manually. Re-organizing the information in this column took me about ten minutes. Doing it by hand would have taken at least an hour and a half.

Programming the keypad to do all this is a cinch. Key Tronic provides menu-driven configuration software, so all you have to do is tell it what keystrokes to perform for any given numbered square on the keypad.

If you're getting into desktop publishing, you will find yourself wanting to incorporate drawings into your publications from time to time. When the 5153 is being used with a graphics program, you can place existing hard-copy drawings on the touch pad and then "trace" them into the graphics program with a precision of +/- 1/1000". If your original is larger than 3½" square, it won't fit on the touchpad, however. You could use your Xerox to reduce it first. Or you may need a larger digitizing pad.

One digitizing pad, the Pencept Penpad Plus, comes with a unique keystroke-saving feature. It is capable of reading hand-written characters directly into the computer as though they'd been typed. Where the Key Tronic 5153 keeps the touchpad on the keyboard, the Pencept puts the keyboard on the touchpad. This is especially significant if you use your computer more intensively for graphics than for text-oriented business applications. If you're a *Lotus 1-2-3* user and use Lotus's Freelance for producing presentation graphics, PenPad Plus should be of special interest. It comes with a pre-programmed template that can easily cut production time in half.

I'll cover graphics input devices in an upcoming column and will cover the PenPad more thoroughly there. In the meantime, a keystroke saved is a few more pennies earned. ☐

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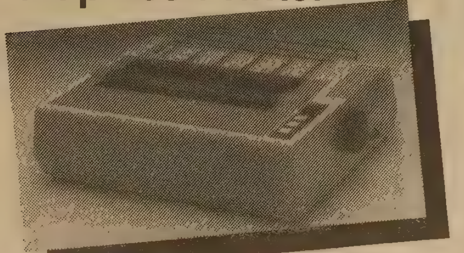

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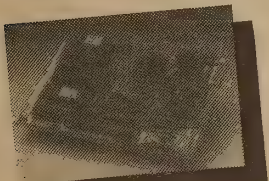

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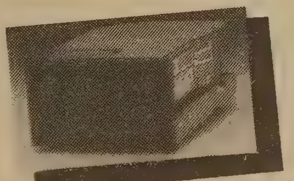

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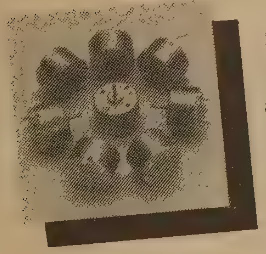

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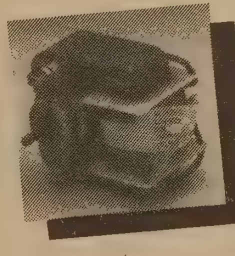

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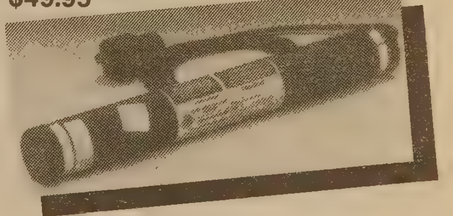

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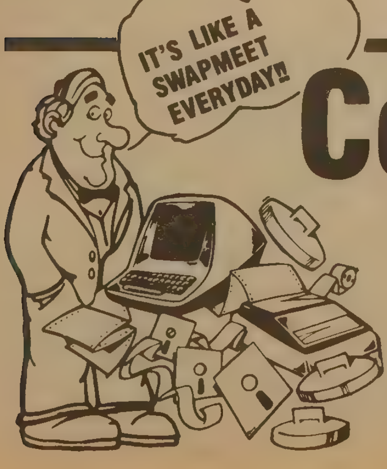
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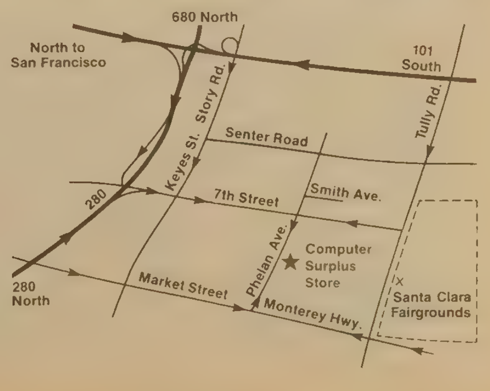

UNIX

Downloading Files From USENET

By Bennett Falk

HLR of Mill Valley writes: "How can I download files from USENET?"

Now HLR is really a very bright guy and probably knows perfectly well how to download files from USENET to a personal computer, but this column will answer the question anyway because a) I'm flattered that he asked, and b) downloading files from USENET is interesting stuff and not very well documented.

WHAT IS USENET ANYWAY?

Imagine an immense international network of computers, most running UNIX, which call each other over ordinary phone lines and serial communications ports at pre-determined times of day and exchange files. That's USENET. Much of the traffic on the net consists of private user-to-user communications in the form of electronic mail, but also flowing through the net is a very great volume of information for public consumption. If the computer you're working on happens to be a node on the network, or if you have an account on a commercial time-sharing system that's part of the network, you have access to one of the greatest public sources of information and opinion in any culture anywhere: the network news.

The network news is basically an organic encyclopedia. News topics range from technical esoterica (like compiler design) to more mundane matters (like restaurant reviews), with detours through every conceivable area of interest in between.

The network news is easy enough to read: just type "**readnews**" and press return in response to the UNIX shell prompt, and you'll be reading the network news. You may be lucky enough to work on a system with a more modern program for reading the news ("**rn**" is a current favorite), but "**readnews**" should be available on any network node.

WHAT'S SO TROUBLESOME ABOUT DOWNLOADS?

Some of the newsgroups on the net are used to distribute public domain software and "shareware," and it's not uncommon to find source code and software postings mixed in among other items for discussion in these groups. These software postings may have been massaged in one way or another to make them congenial to "readnews." Usually this means that things posted to the net are ASCII representations of some kind.

Suitably encoded, however, software postings can be displayed on the screen just like other articles in the newsgroup. They may not make much sense in their prose form, but neither do they disrupt a quiet browsing through the network news.

Anyone wishing to use this software will not only have to download the appropriate files, but also take precautions to "decode" them in some way. Hence HLR's question on the sometimes thorny matter of decoding files from USENET.

WHAT YOU WILL ENCOUNTER

While reading the network news, you may run across something worth downloading. First, save the desired article in a UNIX file with the "**s**" command at the readnews "**ynq**" prompt. You'll have to specify a filename on the command line: "**s kernel.c**" for example. (One exception to this procedure will be discussed below.)

After you exit **readnews**, look at the files you have created, preferably with an editor. You will see that messages sent through USENET usually include some notes from the author describing the posting and including instructions for filtering it into some usable form. Typically this information is at the top of the file, right after a header that describes the message's routing through USENET, and both the routing information and the author's notes are saved as part of the posting.

Depending on what format was used for the posting, you may need to do some further processing to produce something that can be meaningfully downloaded. Articles posted on USENET may be in any of five formats:

1. **ascii**
2. **shar**
3. **uuencode**
4. **ARC**
5. **compress**

"**Ascii**" files are nothing but plain text files. They aren't encoded at all, and just about any editor (either on the UNIX system you use to read the news or on your local computer) can be used to modify them. At some point you will probably need to strip out the USENET message header to make the file usable.

In general, **ascii** software postings are simple source code files. The languages preferred on USENET seem to be C and Pascal. One caution: source code on the network is usually intended

Bennett Falk is an Application Specialist for BASIS, Inc., and has been enthralled by UNIX, its uses and users, for quite some time now. Copyright © 1987 by Bennett Falk. All rights reserved.

A sample USENET message containing an archive file (.arc) that has been uuencoded for posting:

```
Article 541 of comp.sys.atari.st:
Path: well!ptsfa!lll-lcc!seismo!husc6!mit-eddie!genrad!decvax!ucbvax!ESTEC.BITNE
    T!TPC862
From: TPC862@ESTEC.BITNET
Newsgroups: comp.sys.atari.st
Subject: Public Domain Make (part 2 of 2)
Message-ID: <8612221910.AA11047@ucbvax.Berkeley.EDU>
Date: 22 Dec 86 03:16:08 GMT
Sender: daemon@ucbvax.BERKELEY.EDU
Organization: The ARPA Internet
Lines: 1284
```

Note to the info-atari16 editor: You might want to split this file because it is rather large (about 1270 lines)

```
begin 777 stmake.arc
M&@A!4U1!5“Y(        ,P$   (X-Q+“^1Q8”     ,“5ZH@   2#   2P,%“50D@&1   x
MQ<&$(“   1”#.’3A@Z+M”   :)%   2ADZ<MZ824,’!(\Y>>:\J’@QHX\$“1\J3&#Fx
MC1P0=-“4  1’$HIPT(*90  =$FS!@T:=R4F1,3H4*&#IU&)*#$A107((2$:=,Fx
MS<<“41,N;/B0RT  8+PX>’$&FS$BE.-.T*?.%3@(V;]R<4:N@HIPZ8TI*9$GGx
MX)Z#4X^&N3F8SI<Y<&)LD1&CRXZ    *D    HJ>-F340$*M(J2(QF\=2*7]J\:7M9x
M(  @C:=CLO  @RC9@Z=):”“(U8(AVY=$N“0*V:3.O,35;’G<L“Q)V==>;LS+F3x
MS,6=)I;/G@,B!@B\>G>+G@K^S&G’<]+H*7/\=>R=Z=='/,![M$3%C  F@ABQCx
M2PP:EF’FGFP@N+’53I#0)UH?.QP$&@A#2$5#2RY#        A  8  (\-7+%5x
M   :,,      ,“5ZH@/2#2P,%“50D@(1      Q<&$($!   (=(DR)(B+$   $H1-&3AH04ZB   x
ML%-&SIPT;]PL+:       0H4*&+2%J)!,&#ITR9$“8D?.F#8@V;\BXF/.FCIPQ9>:        x
ML/*&#8@;()+ ,F5.GS-,8&6/DP&&C10P9 + 6#,<)$@X<.7#<]&I((FC5(X;^30x
M^1EF35(09?#<=’.2)(@Z<ZR^,0.“#AK!’L^D<1/&J9LR=(86/9K4K,N(<.6“x
M$) ,’A) ([8=!T!“$D3)LV: <A“8GEV8  =  K+D Q023DRC!L03TC*$5.FS)J%!F*Jx
M  !&[2)LP:=CH  $$%RA“N,H  4“5EDB  LA2:@X*4)E(0’AQ!LT?VY#1HGI5*I?x
MS[Z=“I  K2:8,L=+$!7SY+HH0J4*<  (H@4D   11   J6001)   RY   ,D   (;8QA1QAXx
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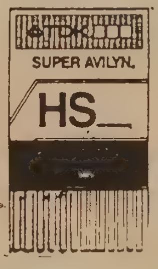

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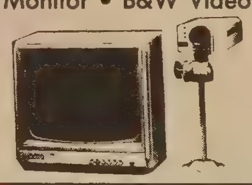

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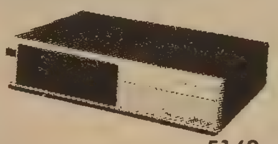

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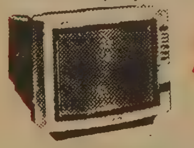

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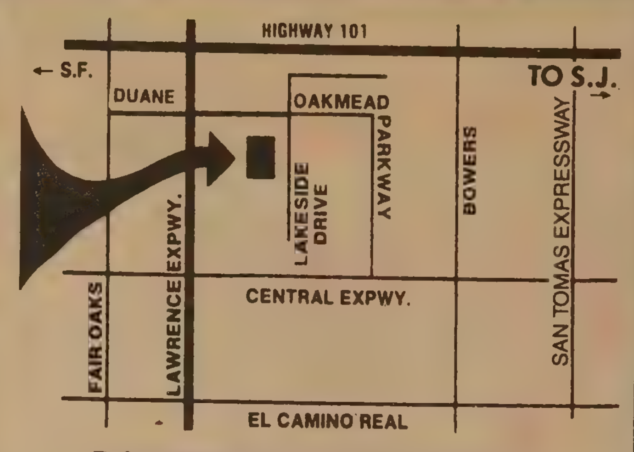

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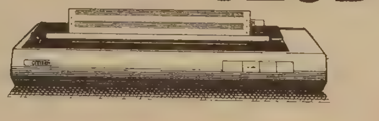

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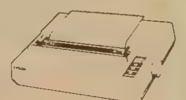

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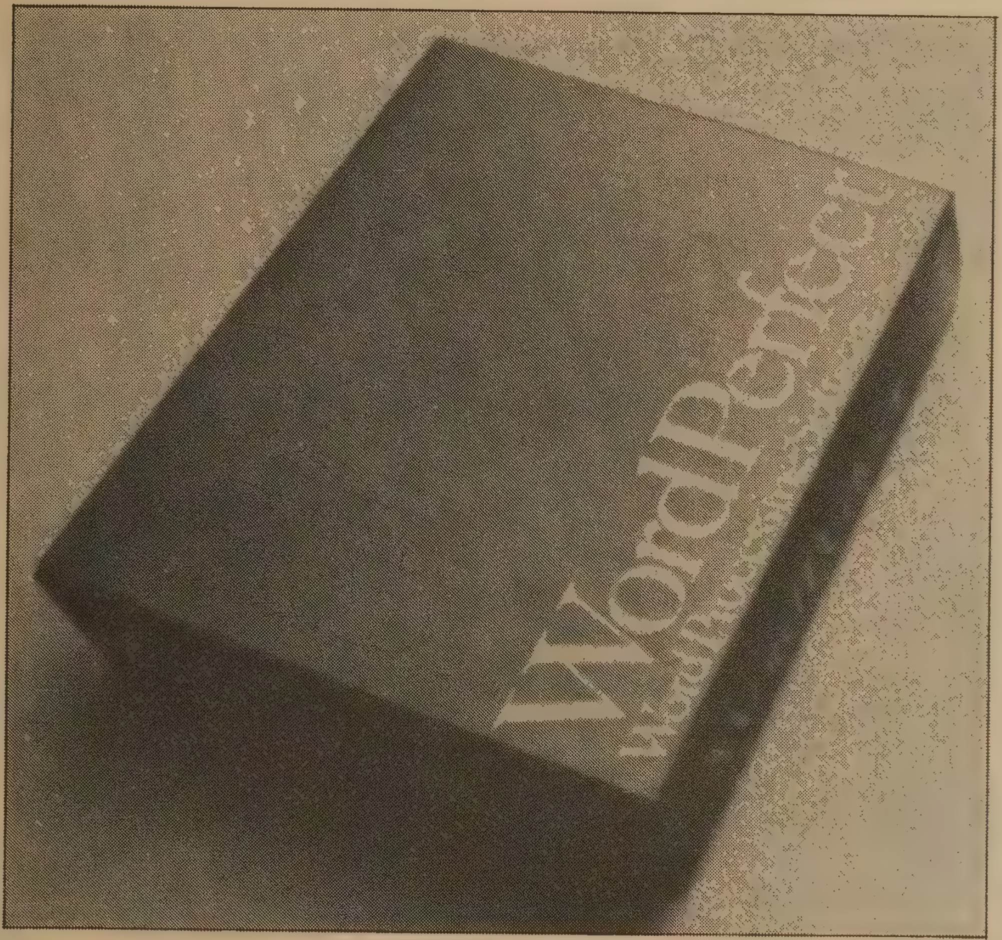

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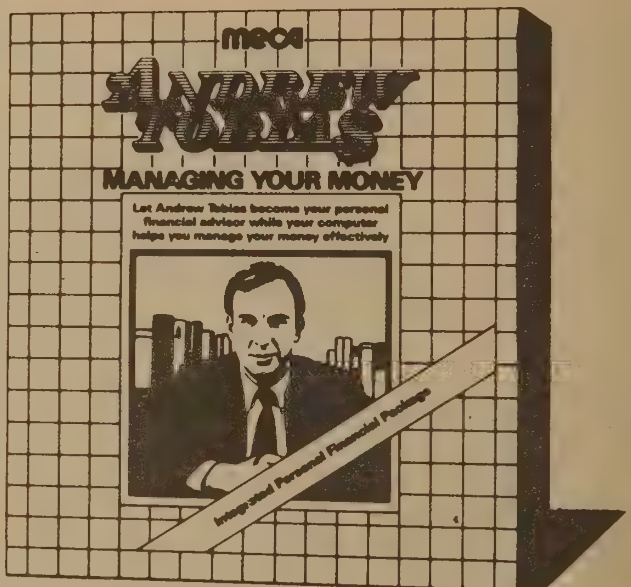
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for one or another commercial compiler, and you may have difficulty adapting the code for a compiler other than the intended one. Still, it can be quite instructive to download a source file and tinker with it until it can be used with the compiler you own.

Downloading **ascii** files is simple, requiring none of the fancy protocols needed for binary file transfers. You can display the item you want to download on the screen and use the "file capture" feature of your communication software to create a local file that contains the information you want.

"**Shar**" (shell archive) files are a more complicated version of **ascii** format. Frequently a source code posting will consist of more than one file; rather than have each file posted independently, all the files will be collected into one "shell archive." In addition to the text of the source code files to be transmitted, the shell archive contains UNIX shell commands to "unbundle" itself into its components and, if the author was very clever, check the integrity of the resulting files.

Remember: **shar** files are basically UNIX Bourne Shell scripts. Don't download the **shar** file unless you want to do a lot of tedious editing on your computer! Instead, use one of the UNIX editors to strip off the USENET message header and any other commentary at the top of the file (there is frequently a notation in **shar** files that explains where to make the cut). At the UNIX shell prompt, issue the command "**sh sharfile**" (where "**sharfile**" is the name of the file you've saved from USENET). This will extract the **sharfile**'s component files. If these are all straight **ascii** files, go ahead and download them; they need no further processing from UNIX.

USENET postings may contain encoded binary files—not source code at all, but compiled programs ready to be decoded and run. Binary postings are usually **ascii** representations produced by the "**uuencode**" utility, and this will customarily be noted in the message header or a brief note from the author at the top of the article.

As with shell archives, some further processing of **uuencoded** files is needed to produce anything usable. First, save the USENET posting in a UNIX file as described above. When you next exit to the shell, run the command "**uudecode myfile**" where "**myfile**" is what you saved from USENET. Usually a **uuencoded** file will not even need to have the message header stripped out. For more information on **uuencode** and **uudecode**, see the entries for these commands in the online manual.

Again, be careful. There's no telling what kind of file will result from this decoding. In the best of all possible worlds it will be a binary file that can be used on your computer. Files produced by decoding a posting on the net should be downloaded to your local computer using some protocol that will insure an error-free transfer. Kermit and Xmodem are widely used for this purpose.

"**ARC**" files are archives created with some version of the **arc** command. These archive or library files will contain a number of other files which, in order to be used, must first be extracted from the archive. "**ARC**" is a utility for personal computers, though there has been some attempt to port it to UNIX. If the result of your "uudecode" command is a file whose name has an "**.ARC**" extension, you will need some version of "**ARC**" to extract the components of this archive file. "**ARC**" is readily available on Bulletin Boards, but be sure to look for a version compatible with the archive you have picked up from USENET. Usually, you will need to download the "**.ARC**" file for further processing on your local computer. Download archives with the same precautions you would use for binary or executable files.

Sometimes, lengthy files have been run through the UNIX utility "**compress**" before being sent through the net. Ordinarily compress produces filenames with a "**.Z**" extension. To use such files, you will have to "uncompress" them with the UNIX command "**uncompress filename**" or "**compress -d filename**". Files should be "de-compressed" before downloading. Again, it is probably best to take the precautions appropriate to binary transfers.

As you may have guessed, some of these five "formats" may be combined. It is common for **uuencoded** articles to contain either compressed files or **ARC** archives, so don't be surprised if you need to do some further processing after decoding the posting.

Once you have successfully downloaded things from USENET, don't forget to remove any temporary files you may have made on the UNIX system you're using. This will make life easier for everyone by freeing up disk space for other users and leaving you with an uncluttered directory in which to work the next time.

Software distributed through USENET comes in all flavors: there are separate newsgroups for most of the major brands of personal computer. A sampling of these newsgroups will show that participants are not shy about requesting software to meet their needs. If you don't see what you need at first glance, post an item inquiring about it. If someone responds with a posting, you can put into practice all this advice about downloads. ☐

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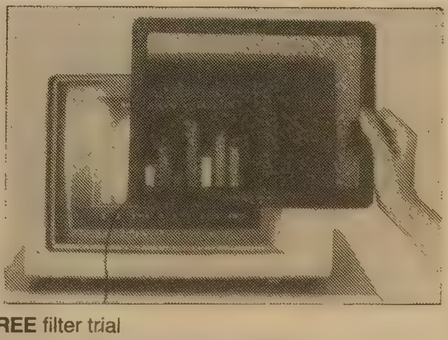

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Improving The User Interface

By Wayne A. Yacco

This column and the next examine some considerations for writing and using batch files. This month we will discuss pipelining, more on redirection, and some additional control characters that can add to the appearance and sense of urgency of messages.

Two new useful batch files are included this month but, for the most part, they are not examined closely because they are operationally similar to **DELBAK.BAT** which was featured last month. One significant difference between these files and **DELBAK** is the way they modify the normal operation of the **PAUSE** command, so we will take a look at that difference first.

Last month's job redirected a file named **BRK** to the **PAUSE** command, which causes **PAUSE** to behave as though a **CTRL BREAK** has been entered from the keyboard. This causes **COMMAND.COM** to issue a second prompt which is easier for the novice user to understand and more difficult to respond to in error. It also skips a level of required response if the user wants to abort the job.

Using redirection to achieve this end, while instructive, is not, however, the most efficacious method available. For one thing, storing, managing and accessing the extra file, **BRK**, requires unnecessary effort. The concept of the pipeline is introduced in this month's jobs to circumvent this redirection.

In this sense, pipelining is the practice of automatically transferring the output of one program directly to another, as its input, without specifying the use of an intermediate file. The compound command **ECHO ^C | PAUSE** pipelines the **CTRL BREAK** character, output by the **ECHO** command, to the **PAUSE** command. The desired end is achieved without the use of an intervening file. N. B.: This method does not work if the input requires a character that is a delimiter for the command processor (e.g., a carriage return). This method will also not work for all versions of DOS.

Wayne Yacco is an independent data-processing consultant with a practice in the San Fernando Valley. Since 1980, he has assisted clients in the implementation of microcomputer-based systems. Questions may be sent to him at P.O. Box 4239, Burbank, CA.

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> **In this sense, pipelining is the practice of automatically transferring the output of one program directly to another, as its input, without specifying the use of an intermediate file.**

Instead of redirecting input to **PAUSE**, we will now redirect its output to **NUL** — the proverbial bit bucket. **NUL** is a system file name (analogous to **PRN:**) that causes output to be discarded when used in this manner. With this addition, **PAUSE** will no longer display the message "Strike a key when ready..."

Note that the redirection symbols, < and >, cannot be used within remarks (REM statements), or elsewhere in a batch file unless they are used for redirection of in- or output. This is because **COMMAND.COM** will *always* look for a file with the name of whatever follows a redirec-

```
echo off
goto :enddoc            D E A D L Y
rem
rem        * * * * * * * * * * * * * * * * * * * * * * * * * * *
rem        * * * * * * * * * * * * * * * * * * * * * * * * * * *
rem        * * *                                           * * *
rem        * * * © Copyright Wayne A. Yacco 1987.          * * *
rem        * * *                                           * * *
rem        * * * * * * * * * * * * * * * * * * * * * * * * * * *
rem        * * * * * * * * * * * * * * * * * * * * * * * * * * *
rem
rem     * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
rem       CAUTION, THIS JOB DELETES PROTECTED FILES!
rem       This job displays a file, or files, specified in a
rem       parameter (%1) and pauses. If it is not terminated
rem       by entering 'Y' or 'y' (sans quotes), then those file(s)
rem       are unprotected (write enabled by ATTRIB) and
rem       deleted.
rem     * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
rem

:enddoc

     if %1null = = null goto :error
     if not exist %1 goto :error2
     dir %1
     echo ▶ ß
     echo ▶ Enter N to delete PROTECTED file %1.
     echo ▶
     echo | pause > nul
     attrib -r %1
     del %1
     goto :end__of__file
:error

     echo ▶
     echo ▶ File(s) must be specified.
     goto :end__of__file
:error2

     echo.
     echo File not found.
     ponder 2 (a two second delay command which must be
     on path)
     dir /w /p
:end__of__file
```

Legend:
▶ = ^P the highlight character
ß = ^G the bell (no character)

```
echo off
goto :enddoc                D D
rem
rem        * * * * * * * * * * * * * * * * * * * * * * * * * * *
rem        * * * * * * * * * * * * * * * * * * * * * * * * * * *
rem        * * *                                           * * *
rem        * * * © Copyright Wayne A. Yacco 1987.          * * *
rem        * * *                                           * * *
rem        * * * * * * * * * * * * * * * * * * * * * * * * * * *
rem        * * * * * * * * * * * * * * * * * * * * * * * * * * *
rem
rem     * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
rem       This job displays a file, or files, specified in a
rem       parameter (%1) and pauses. If it is not terminated
rem       by entering 'Y' or 'y' (sans quotes), then those file(s)
rem       are deleted.
rem     * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
rem

:enddoc

     if %1null = = null goto :error
     if not exist %1 goto :error2
     dir %1
     echo ▶
     echo ▶ Enter N to delete file %1.
     echo ▶
     echo | pause > nul
     del %1
     goto :end__of__file
:error

     echo ▶
     echo ▶ File(s) must be specified.
:error2

     echo.
     echo File not found.
     ponder 2 (a two second delay command which must be
     on path)
     dir /w /p
:end__of__file
```

Legend:
▶ = ^P the highlight character

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tion symbol.

We have also introduced two additional control characters in these files. The ^P character displays a bright arrowhead that highlights the following message. The ^G will sound a beep that is precisely as annoying as if it were part of an expensive program. The jobs require a command file, **PONDER.COM.**

The entry of control characters in a file was explained in last month's column. The principles also apply, if the file is a batch job, with one exception. **EDLIN** (for DOS version 3.1, perhaps others as well) has a glitch in it that must be dodged when entering a control character, in a character string, to be displayed by **ECHO.** If the **ECHO** command is entered using **EDLIN**, and the string to be displayed by **ECHO** contains a control character, then **EDLIN** ends the line with two carriage returns and a line feed. Since lines are normally ended with a single carriage return and a line feed, this will cause **COMMAND.COM** to process the *following* command line improperly. The following command will not be recognized, as a valid command, as a result.

One way to avoid this problem is to use a word processor which allows the output of unformatted ASCII files that contain control characters, as explained last month for *WordStar* and Microsoft *Word*. *Word Perfect* users can also enter control characters into unformatted files in the, absolutely, most obvious way. To enter a **Ctrl-C** **(^C)** simply hold down the Ctrl key and strike the "C" key. Files can be saved without formatting through the **TEXT IN/OUT** menu **(Ctrl-F5)**; select the first function, "1 — Save current document as a DOS text file."

For avoidance of the problem, in **EDLIN**, use the following procedure when entering an **ECHO** command that is to contain a control character.

1.) Enter a line containing only the control character(s).
2.) Edit the line just created.
3.) Use the INS key to insert other text required to complete the syntax.
4.) Use the F1, F2 or F3 key to copy the control character(s) from the template.
5.) Enter any other required characters.

This line will end with the normal carriage return and line feed (ASCII characters 13 and 10).

> **Using these suggestions can allow batch jobs to be employed as replacements for DOS utilities which sometimes act unexpectedly with unfortunate results.**

EDLIN occasionally inserts other hidden characters into lines that cause processing to fail. It is often the line following the error that fails in execution.

Word processors may also cause this problem with hidden characters. A friend of mine was unable to compile an assembly source file that he swears was properly created using *WordStar*'s nondocument mode. Nevertheless, something had set the high order bit of a single character that was causing the compilation to fail (not all versions of the Microsoft assembler will fail to compile properly in these circumstances).

These seemingly inexplicable problems can be detected using **DEBUG.** Those unfamiliar with **DEBUG** may find it easier to simply delete the suspect lines and then reenter them. This may solve the problem unless the glitch is consistent, as with **EDLIN**'s handling of control characters.

This column has provided suggestions that can improve the user interface of batch jobs. Using these suggestions can allow batch jobs to be employed as replacements for DOS utilities which sometimes act unexpectedly with unfortunate results.

Two batch jobs, **DD** and **DEADLY**, have been included to demonstrate that principle. They are similar in function to **DELBAK.BAT** but more generic. Both add a preview of files to be excised to the standard **DOS DEL** and **ERASE** commands. **DD** provides a directory of the files to be deleted and offers the user a simple means of electing whether or not to complete their deletion. **DEADLY** performs the same function but adds the ability to delete files which have been declared as read only with the **ATTRIB** command. Note: although utilities are available which can be used, with early versions of DOS, to modify file attributes, read only files should be used with care with those versions of DOS. Some versions of DOS commands will not function properly with protected files and batch jobs referencing them may fail or give unexpected results.

NEXT MONTH: Next month this column continues with things you can do to make a batch job run faster and more efficiently.

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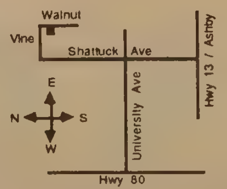

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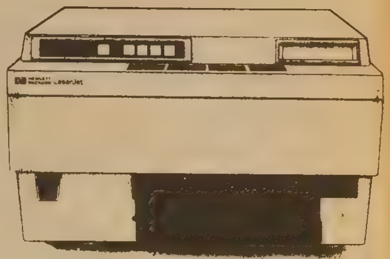

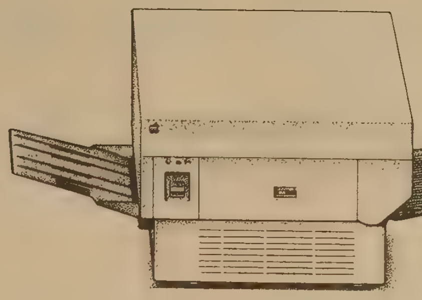

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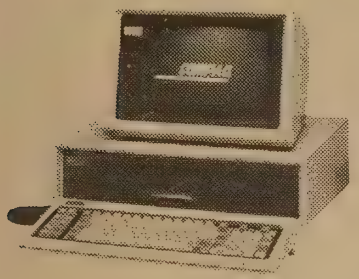

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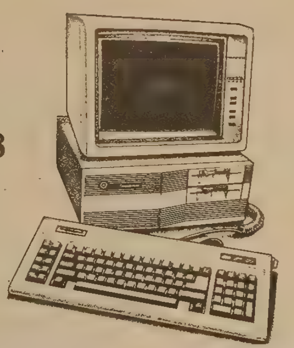

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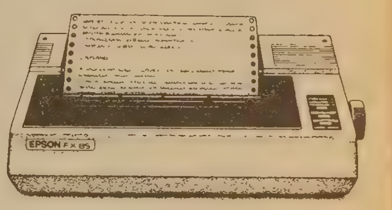

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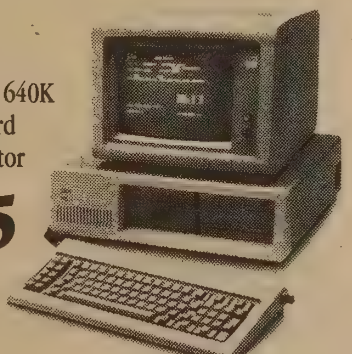

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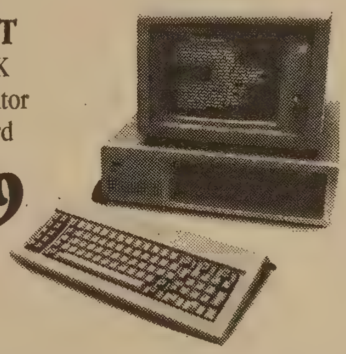

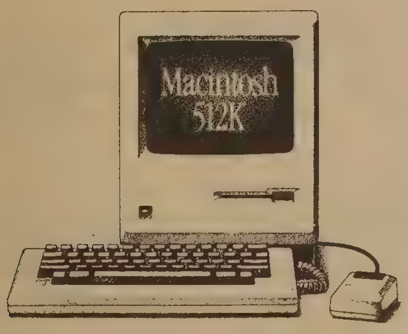

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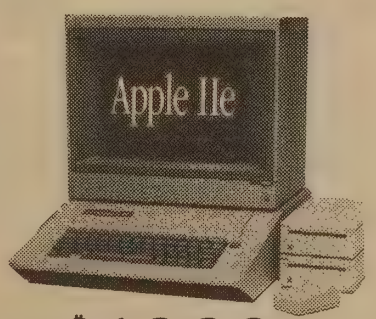

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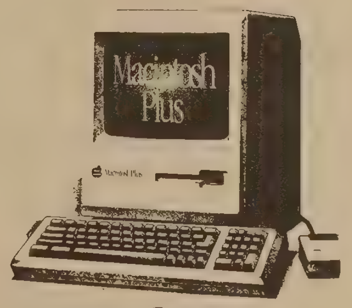

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Government Bulletin Boards—Half Of A Free Lunch

By Brock N. Meeks

So much for free enterprise. Six years ago the Reagan Administration began its push to make the government into a paperless bureaucracy. (A "paperless bureaucracy" is as much an oxymoron as "jumbo shrimp" or "military intelligence," but I digress.) To facilitate this move, the Administration turned to the private sector. Government officials presumed that private companies would jump at the chance to set up new computer-information systems, recouping startup costs by selling government data to the public.

The Administration figured a more efficient private sector could provide database access to government information for less. So much for pipe dreams.

CATCH-22

Information companies are reluctant to fund the startup of database systems using government data without some assurance that they will turn a profit. Those are hard assurances to nail down. The glitch, and it's a big one, is that government data can't be copyrighted. A competitor could purchase the same data from the government (which readily sells magnetic tapes of all this information) and sell it at a lower price.

In order to overcome this reluctance by the private sector, some governmental agencies have offered their information to private companies on a monopoly basis. This awarding of an information monopoly has boomeranged; prices have skyrocketed. This trend caused Anne A. Heanue, associate director of the Washington office of the American Library Association, to say in an interview: "We haven't seen any example yet where it's been less expensive than when it's been handled by the public sector [the government]."

An example of this rise in costs is the current state of information coming from the Department of Agriculture. In 1984 the DOA gave Martin Marietta a monopoly on its information. Previously, you could directly access information from the Agriculture Dept. for $60 a year, with online costs weighing in at $42 per hour. Today you have to pay Martin Marietta $1,800 a year, plus an additional $12 an hour after you've racked up 150 hours of online time. (You can also access this information via Dialog for $25 a year and $96 per hour; Dialog buys the information from Martin Marietta and resells it.)

The higher prices being charged by these private sector information providers is defended by Administration officials, who claim that the private sector often enhances government information and puts it in easier-to-read form. Considering the price difference, this is a weak defense, at best.

This trend of higher information costs is a particularly disturbing one in that it further widens the gap between the "data haves and have-nots." On one side you have Big Business customers with deep pockets who can afford these high prices. The flip side is that libraries, students, you and I, cannot.

Fortunately for you and me, both Congress and the Office of Management and Budget acknowledge that a better way must be found to provide government computer services while guaranteeing public access. One of these "new ways" is a recent trend in government sponsored bulletin board systems (BBSs).

FREE LUNCH, ALMOST

The government has hardly been a fertile ground for BBSs; any comparison to the gestation cycle of trout, for instance, is out of the question. However, some encouraging signs are emerging.

Two years ago there were only a handful of government sponsored BBSs. Today there are over 24 such systems being run by government or quasi-governmental agencies. The main reason for this move to BBSs is better information distribution. With the advent of cost effective hard disks, it is a simple procedure to transfer data from magnetic tape to a 30 or 40 meg hard drive. From there it's a short hop to the bitstream. A BBS also frees up the time of employees, as they have to spend less time satisfying demands for information. Anyone with a modem can dial in and download.

And it's free, for the most part; you only pay for the long distance phone call. Should you subscribe to PC Pursuit, your costs are further cut. Because PC Pursuit services the Washington, DC area, you can make all the calls you want for only $25 a month—the cost of a PC Pursuit subscription.

These boards aren't as sophisticated as the systems you end up paying hundreds of dollars for, but they still contain a wealth of information.

LINEUP

Here's a listing of some of those government sponsored BBSs. When calling, take time to look around for files containing numbers of other government boards.

The Economic Bulletin Board
Phone: (202) 377-3870 or (202) 377-0433 300/1200 baud
Operating Agency: Office of Business Analysis

This board contains hundreds of files dealing with all aspects of the US economy. Here you'll find current economic news from the Department of Commerce's Economic Affairs (EA) agencies including press releases, economic indicators, official DOC summaries of economic news, information on how to obtain data tapes, and summaries of reports and studies produced by EA agencies. Also included are press releases issued by the Bureau of Labor Statistics.

State Data Center Bulletin Board
Phone: (301) 763-1580 (voice)
Operating Agency: Bureau of the Census

You'll have to call the above number to get pre-registered on this board. Once you've been registered you'll find news about new Census Bureau programs, Census publications, reference material on state demographics, and more. This information can be used by marketing research or by sociologists. If you're into statistical analysis, this board is a dream.

Microcomputer Electronic Information Exchange
Phone: (301) 948-5718 300/1200 baud
Operating Agency: Dept. of Commerce, National Bureau of Standards.

This board contains information on the acquisition, management, and use of small computers. Other files containing sources of information on topics such as conferences, Federal publications and activities, user groups, and other bulletin boards. Recently the board has started to specialize in computer security topics.

National Center for Health Statistics
Phone: (301) 436-6346
Operating Agency: Public Health Services

The National Center for Health Statistics is one of the major Federal statistics agencies. They work closely with the World Health Organization to upgrade the information available about the state of health worldwide. Here you'll find many files set up as *Lotus 1-2-3* templates. Any area of health that you're interested in is located here. For example, you can download a file of all the health care facilities for the elderly, grouped by state. There is a special section that contains a major survey of the state of health in the US. These files are broken down by state, and are set up as *1-2-3* templates.

TAKING IT HOME

These are just a few of the available government BBSs. If the current trend continues, we could see the current crop triple by year's end.

Remember that none of this data is copyrighted, so you're free to download it and do with it as you will; you can even package it and resell it for a profit. Or you can simply start your own government information BBS.

Now that's real free enterprise. . .

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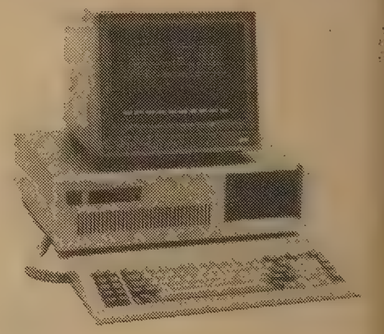

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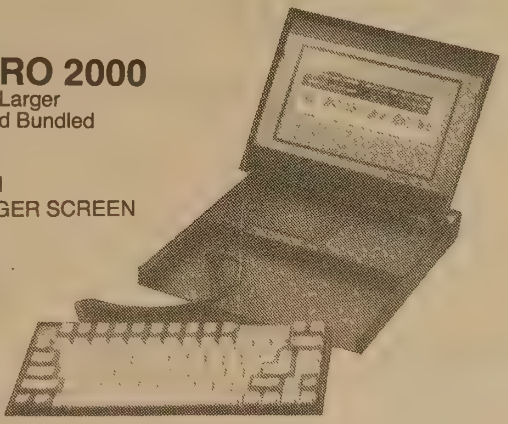

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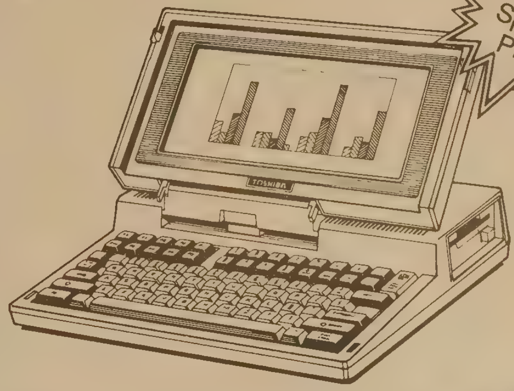

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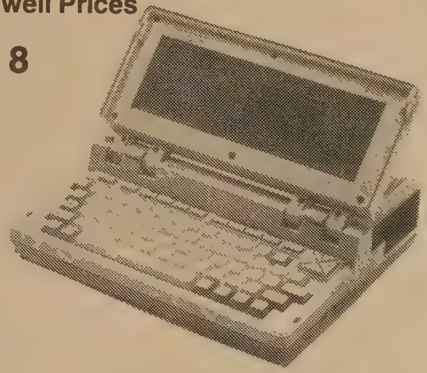

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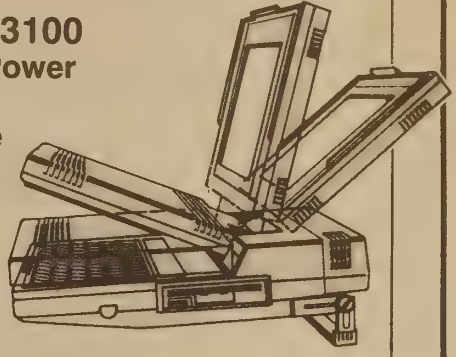

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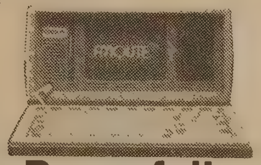

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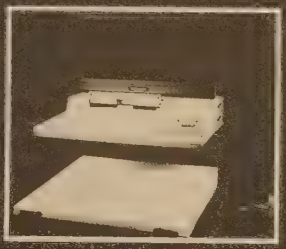

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The R:BASE Saga,

Continued

By Warren Sirota

In the last column, I demonstrated a fairly complex data design that I attempted to implement in *R:BASE System V*, using only the various Express utilities included. Since presenting the database design to you last month, I am sorry to report that *R:BASE* has pretty much failed at automating the programming tasks involved for data entry, although its report writer must be rated as one of the best in the business. In addition, the *R:BASE* RULES facility, which offered some hope of enforcing referential integrity, is not sufficiently enforced within *R:BASE* to satisfy this function.

Let it be noted that I am evaluating *R:BASE System V* in terms of its own aspirations and goals, as I perceive them, not in terms of a direct comparison with products such as *dBASE III+*, which has its own problems. My overall evaluation of *R:BASE* is that it can be used as an effective tool for database application development, but not nearly as easily as one might hope.

DATA ENTRY— R:BASE FORMS

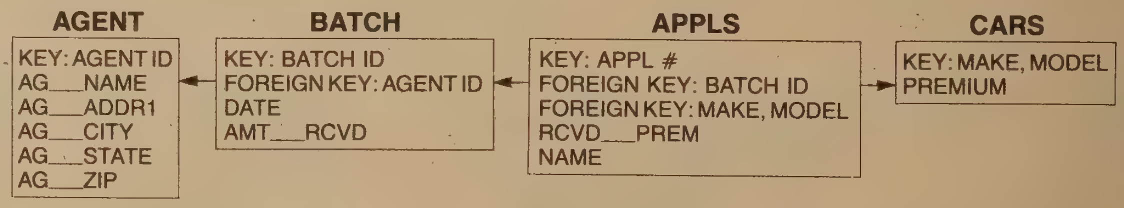
In the test database (see Figure), the task was to enter a batch of insurance applications from a single agent. *R:BASE* allows you to design a FORM for data entry (using the FORMS EXPRESS part of the product), with some flashy and potentially wonderful features. However, these features aren't quite what they should be yet.

The FORMS EXPRESS provides a facility for entering data in multi-table relationships, which appears to be just what we need. In order to enter a batch of data we need to:

1. Have the program assign a batch id equal to one more than the maximum of the existing batch ids.
2. Have the user enter an agent code, and verify that the agent exists. If the agent code exists, the agent's name should be displayed on the screen. If the agent code does not exist, then the user should be able to pick an agent code from a list, or to enter the agent's name and have the agent code entered automatically.
3. Have the user enter a remittance amount, which is the amount of the check sent by the agent.
4. Enter the data for individual applications one by one. This includes the name of the individual insuree, and also the make and model of the automobile. The make and model together should be treated like the agent code: if they are found in the CARS table, then the premium should be displayed on the screen. If not, then the user should have an opportunity to examine the list of cars that are in the database and find the appropriate one.
5. When all individual applications have been entered, the program should total up the premiums and compare the total to the amount of the check tendered by the agent. If the two amounts are different, an error message to the operator and further processing (like the backing out of the batch to a HOLD file) should occur.

So, how does *R:BASE System V* handle these tasks? The answer is that it can handle them, but not within the context of the FORMS EXPRESS.

FIGURE 1



Let's look at the steps one by one:

1. You cannot, within the FORMS EXPRESS, calculate the maximum existing batch id. There are several alternatives—I'll describe one. You can keep a separate table, which would have only one row, which would keep the value of the last batch id used. This works pretty well, although you must remember to increment this value after every batch is entered. This means also that after every batch is entered, the user must be forced to exit forms processing (which can be done) so that your little one line program can update the last batch id table, and then you can re-enter forms processing for the next batch. This is a somewhat significant overhead.

2. If the person doesn't know the agent id, it is very easy to write a little program that prompts him for part of the agent's name and then looks up the id. But, again, this cannot be done from within the data entry forms, and forces you into custom programming. On the other hand, if the agent id is found, it is very easy for *R:BASE* to display the agent name on the screen automatically, without any coding.

3. A field for remittance amount is easily set up on the form. No problem here.

4. The look-ups into the CARS table are subject to the same considerations as the look-up into the AGENTS table: i.e., if the user can enter a make and model combination that is in the table, everything is hunky-dory, but they (and you, as the programmer) are in trouble if they don't know it.

5. The checking of the amounts is an easy two-line program to write in *R:BASE*, and the extraction of all applications in a given batch into an auxiliary HOLD table is a one-line relational operation.

It may be possible to accomplish some of this from within FORMS EXPRESS, but, if so, I haven't been able to figure it out. The only examples that are included in the documentation are extremely simple, and barely reflect the range of real-world needs.

The conclusion about FORMS EXPRESS: fine for simple forms, but for the bullet-proof type of behavior that is required for most real-life applications, you will have to write your own programs that manage every line of the interaction. Just like *dBASE*.

VIEWS, REPORTS, AND AD-HOC INQUIRIES

In contrast to its data-entry facilities, *R:BASE System V* shines in the area of generating reports and satisfying ad-hoc inquiries. The fundamental facility that makes all of this easy is the **View**. This is a concept from formal relational theory which aims to glue the underlying tables together in a natural way, and to present a unified and sensible picture to the end user (the *dBASE* view concept is a radically distorted version of this). In *R:BASE*, you can create a view from the DEFINITION EXPRESS simply by moving the cursor to the tables that need to be joined and pressing Enter. (Unfortunately, changes to the structure of the underlying tables confuse the view mechanism and require deleting and then recreating the view. Only a few keystrokes, but it does take time to enter and exit the various modules, and it gets annoying).

At any rate, once a view has been created, then it is easy, even for the non-programmer, to satisfy ad-hoc inquiries using the PROMPT facility. This facility aids in the creation of all *R:BASE* commands, and is extremely well-designed.

Copyright ©1987 by Warren Sirota. All rights reserved. Warren Sirota is a database consultant with experience in a wide range of languages. He also composes and programs computer music. He lives in Oakland and can be reached at (415) 482-3979.

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Figure 2 shows part of the process of a management inquiry into all applications for Toyota Corollas.

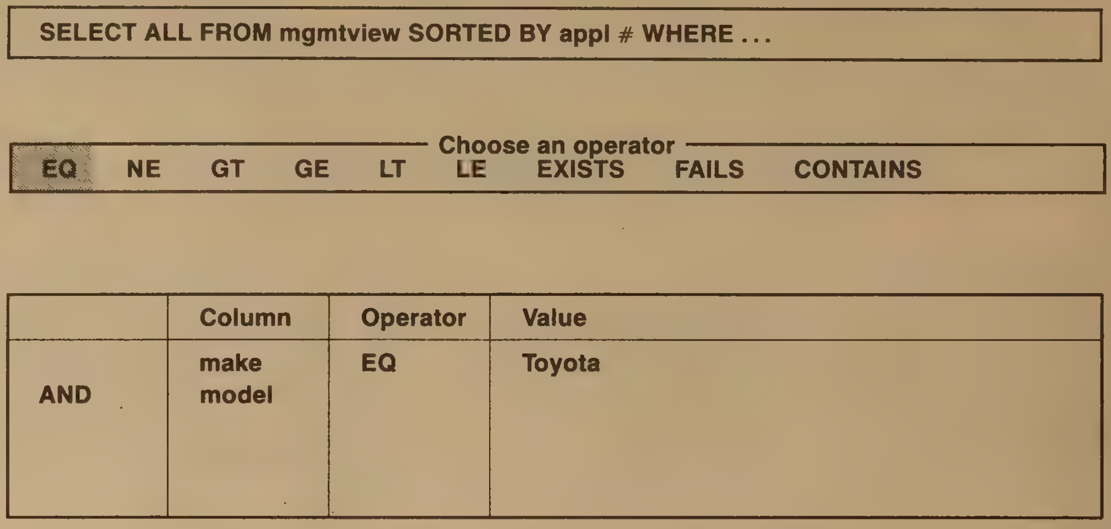
The REPORTS EXPRESS part of *R:BASE* can also operate off views, and provides ten levels of sorting and subtotals (compared to *dBASE*'s two levels). It is very easy to define complicated reports which look exactly the way you want. The only gripe I have is that you have to exit REPORTS EXPRESS in order to test a report, and then enter it again to make changes. This is more time-consuming than it should be.

MISCELLANEOUS

R:BASE System V contains an enhanced File Gateway, which is a fine utility that can read all sorts of files and put them into *R:BASE* table format (as well as export files). Translating *dBASE* files into *R:BASE*, for instance, is a snap. *R:BASE* also provides a high-precision CURRENCY data type, and a NOTE data type similar to the *dBASE* MEMO data type. The NOTE data type is not supported well, however, and its use is not advised except under limited circumstances (ditto for *dBASE* MEMO types). MicroRim should take a look at what *Clipper* does with its MEMOEDIT function for an example of how to handle this properly.

The RULES function of *R:BASE System V* looked promising at first. In the example database, for instance, I specified that every application in the APPL table had to have a batch id associated with it in the BATCH table. During data entry, this rule was enforced, as it should have been. However, it was still possible to delete all the rows in the BATCH table, even though this left many applications hanging, without so much as a whimper from *R:BASE*. So much for automatic referential integrity.

Another problem with *R:BASE* is that when you're using it in its simplest, unadorned mode (the R> prompt, which is equivalent to the *dBASE* dot prompt), error messages are nonexistent. If you issue a command with incorrect syntax, it doesn't tell you what's wrong. It simply gives you another R> prompt. This aspect of error handling has to be rated as poor.



```
SELECT ALL FROM mgmtview SORTED BY appl # WHERE . . .
```

Choose an operator

EQ NE GT GE LT LE EXISTS FAILS CONTAINS

	Column	Operator	Value
AND	make model	EQ	Toyota

Figure 2. This is a screen printout from an inquiry screen in R:BASE's PROMPT mode. This screen is part of R:BASE, and required no coding to set up, except for the 5-minute operation of setting up the management view. The top area on the screen shows the actual syntax of the R:BASE SQL-like query, which is in the process of being built. None of these words have been typed in; rather, they have been chosen by prompts similar to the middle box in the figure, where the user is being asked to help complete the WHERE clause. The bottom box shows the WHERE clause up until now. All field names have been chosen from menus; none have to be remembered by the user.

CONCLUSION

Although the automation of data entry functions is still too simplistic to be useful, you can still program them by hand, which is no worse than what any other system gives you. In addition, *R:BASE System V* provides the end user with a superior report generator and ad-hoc inquiry facilities, and excellent PROMPTing through all of its command syntax. ☐

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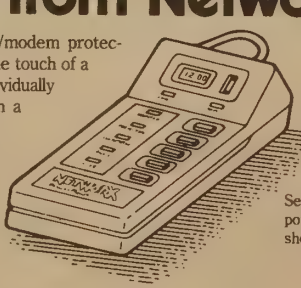

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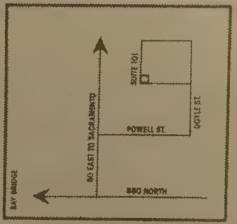

Getting Wired

By Newt Pippin

So many people in the Macintosh community are busy boasting about their connections to Apple and their inside knowledge of the forthcoming new machines that I thought I'd skip that subject entirely. Instead, I'd like to tell you about another type of connection, one between Macs.

The link is PhoneNet, a cabling system from Farallon Computing in Berkeley (415/849-2331) that you use to hook up Macintoshes and their supporting peripherals running under AppleTalk. Cabling systems are pretty tame stuff, but I like this one because it can save me a lot of money, and it lets me keep more control of my actual desktop.

Essentially, PhoneNet turns the normal AppleTalk shielded-cable system into a connection grid made up of ordinary 2-wire telephone cable. In fact, the cables use standard phone hardware both for the cable and for the plugs and sockets.

Like AppleTalk, PhoneNet uses a small junction box at each device to make the link between device and network. The PhoneNet junctions cost the same as Apple's AppleTalk variety ($49 each), but from there on you can use low-cost two-wire cable.

You can, in fact, use a lot of cable—PhoneNet is spec'd for up to 3,000 feet between connection nodes, which is three times as far as AppleTalk allows. You can also connect PhoneNet as a star, bus, or serial string of machines (meaning connected to a common point, connected to points along a common cable, or connected each one to the next).

Essentially PhoneNet turns the normal AppleTalk shielded-cable system into a connection grid made up of ordinary 2-wire telephone cable. The cables use standard phone hardware both for the cable and for the plugs and sockets.

If you have four-wire phone cabling with only two wires in use—common in houses and offices wired from about 1960 on that have only one telephone number—you can even use your existing phone wiring. Normally, single line telephone connections ("RJ11" types) are connected up to use the center two conductors, so the PhoneNet connectors default to the two outside wires.

If you have two-line service using a single jack ("RJ14" style), the outside pair is in use and you'll have to provide PhoneNet with its own dedicated cable.

What I like best about the system is that it lets me keep the LaserWriter in one place, yet move the Mac around from room to room as needed. If there's an unused telephone link, I use that to get back to the LaserWriter. If not, I can quickly run a line down the hall with one of those retractable 50-foot phone extensions.

I haven't had any problems at all with PhoneNet, and I assume that its long-term reliability should be comparable to AppleTalk's. Farallon only guarantees the connectors at the current 230 kilobit per second AppleTalk data rate, but they do have a high speed model, in case you want to be prepared for the future (or, apparently, if you're using AppleTalk to connect PCs running Centram System's *TOPS*).

The short installation guide could have been a little more complete (there's no mention, for example, of the possibility that you might have two-line phone service with RJ14 jacks), but it's sufficient for the ordinary situation. Farallon chose to make the guide a tiny 2″ × 3″ to fit in the same box as the connectors, so you'll probably need to staple it to a larger sheet of paper if you don't want it to disappear in the normal flow of an office.

On the other hand, if you have any special problems, you'll almost certainly be able to get help from Farallon. The firm is made up almost entirely of Mac addicts who originally played active roles in the Berkeley Macintosh User Group (BMUG), and they're eager to be of service. On the other hand, there are times when it's clear that you're dealing with current or recent university students, so not everything proceeds on a direct, business-like path.

Overall, barring the very remote possibility that Apple can make its boxes perform some hitherto unrevealed function that PhoneNet cannot, I don't see any reason for buying the AppleTalk connectors—PhoneNet is more flexible, just as cheap, easier to wire, and quicker to set up.

At the recent Seybold Conference on Desktop Communication, Farallon also showed some further PhoneNet products for large installations, as well as some software for network management and configuration. I haven't had a look at them yet, but if you're thinking large network there's apparently an available growth path using the same technology.

GET YOUR MAC BACK FASTER

A Mac-to-LaserWriter connection, whether using Apple's wiring or PhoneNet, often seems to run at a rather lackadaisical pace, but that rarely is the fault of the network. Rather, in most cases the LaserWriter holds up transmission as it runs through the internal PostScript processing needed to translate output description to dot patterns. For long documents, the delay can quickly mount up past minutes into hours.

SuperSpool captures your output while it's still in the native Macintosh QuickDraw format, rather than waiting for the relatively time-consuming translation from QuickDraw to PostScript.

If you have a spooler program, though, you don't have to wait for all that computation to start work with your Macintosh again. The spooler stores the data destined for the printer in memory or on disk, and then feeds it out slowly while allowing you to use your Mac for other tasks.

Spoolers are another fairly tame item, distinguished principally by the quality of their user interface. Because of the way the Mac normally readies files for LaserWriter printing, they've still needed a fair amount of time to capture the document that you intend to print later—until now.

I saw a demonstration of an almost-release version of SuperMac Software's new *Laser Super Spool*, and it has a decided new twist that makes it run considerably faster.

The *Super Spool* captures your output while it's still in the native Macintosh QuickDraw format, rather than waiting for the relatively time-consuming translation from QuickDraw to PostScript. Then, you get the use of your Mac back, the translation as well as the transmission takes place invisibly in the background, and your LaserWriter is just as happy.

What happens, I asked, if you run an application such as *PageMaker*, which doesn't use the Apple QuickDraw-to-Macintosh conversion system? Ah, they said, then *Super Spool* saves the output in PostScript form, and does no better, but no worse, than everyone else. (SuperMac Technology, 415/964-8884.) ☐

Newt Pippin started out with a 128K Macintosh when Apple first introduced the product and has worked his way up to a Macintosh Plus hooked up to a LaserWriter. He works for a communications company in the San Jose, CA area.

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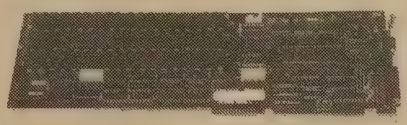

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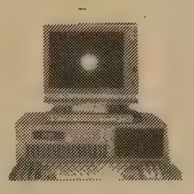

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Religious Wars Revisited, Or,

Electronic Arts Sees The Atari Light

By Helmi Kobler

Sometime in 1982, a Silicon Valley entrepreneur named Trip Hawkins founded a software company whose name would become synonymous with creativity, innovation, professionalism and a whole bunch of other positive qualities. Electronic Arts, as the company was called, laid the foundations of that reputation on some of truly fantastic Atari 8-bit home and entertainment software: *Pinball Construction Set, M.U.L.E., Archon, Hard Hat Mack* and *Music Construction Set* were early titles that won accolades from just about every user, retailer and publication around. Consequently, EA suddenly found itself the darling of the Atari world.

Alas, the honeymoon was soon over. Before long, as Atari began to stumble under the Warner Communications administration, Electronic Arts moved much of its energies into other machines, especially the Commodore 64. New EA C64 titles began to proliferate, and the company had no plans for future Atari versions. Some Atari folks, feeling betrayed and abandoned, developed a bitter sense of resentment.

Many of those 8-bit users eventually migrated to the ST and began to hope that Electronic Arts would offer a full line of software for the new machine. The STs had been fairly well received; they offered 16-bit technology, lots of memory and color—all in all, a bright prospect for future EA products.

But then came the two page, full color "Why Electronic Arts Is Committed To The Amiga" ads. They made their first appearance in the premiere issue of *AmigaWorld*, trumpeting the software Amiga users could look forward to: *One On One, Archon, Deluxe Video Construction Set, Arcticfox, Marble Madness* and more—enough to make your mouth water. But what was there for the Atari ST user? We were promised *Financial Cookbook*, a product that seemed to come and go all at once, and *Marble Madness*, which has not materialized to this day. The general consensus among disgruntled users was that Electronic Arts had something or other against the ST.

But while EA may have been cool to the ST before, it's rapidly warming up now. Several titles for the ST have popped up over recent months, and a lot more are on the way. While some of these future releases will be original Electronic Arts works such as *Arcticfox*, the majority of them will be coming from the company's "Affiliated Labels" department. Affiliated Labels works with what are usually small, independent software firms to create products later marketed by Electronic Arts. Origin Systems' *Ultima IV*, Interstel's *Star Fleet 1* and *Chessmaster 2000* by Software Toolworks are such products that are now available for the ST, or soon will be. Other titles include *Ogre, AutoDuel, Ultima III, New Technology Coloring Book, Software Golden Oldies* and *Quizam*, plus more that are, unfortunately, "off the record" for now.

I visited EA's San Mateo headquarters and found (along with a remarkable absence of Fiends Incarnate) that the company is hard at work on ST software. They have STs on the premises, are working on software in-house and are also bringing to market a wave of Affiliated Labels titles. The folks at EA, actually, looked like a group that really care for their work and love what they're doing. So write them, call them. Tell EA you're glad to see it's supporting the ST and that you'd like to see even more of its software. (I have to admit that the Amiga *Marble Madness* is pretty hot. I wouldn't mind an ST version of that and a few others. . . .) Electronic Arts can be contacted at 1820 Gateway Drive, San Mateo, CA 94404. Call (415) 572-ARTS for Customer Service.

ATARI ON GENIE

In other news, Atari has been making efforts to expand its rapport with Atari computer users nationally. In early February, it became the sponsor of the Atari RoundTable on GEnie, an inexpensive on-line service owned by General Electric.

Atari has always been fairly active in the user community; it's got a User Group Coordinator on staff, publishes the *Atari Explorer* magazine and runs a five-line bulletin board system that receives over 12,000 calls a month. But attaching itself to the GEnie service lets Atari get involved with more users nationwide. The company now comanages two existing on-line conferences for STs and 8-bits, and also holds weekly conferences with Atari staff and software developers.

Atari premiered the GEnie effort with Sam Tramiel answering users' questions on a live on-line conference. When I got the press release announcing the event, I thought it sounded like a great idea and an interesting topic for this column. I figured I'd get the latest ST developments from the boss himself.

That's not exactly what happened. Evidently neither Atari nor GEnie expected the overwhelming response. Picture 100 people speaking on a phone line simultaneously, except that they're actually typing, and you've got an idea of the situation on that conference. There seemed to be no organization; questions poured in on a variety of topics at once while Sam and staff tried to answer what they could.

There were also some technical difficulties that marred the conference. GEnie seemed to "forget" a few people taking part in the conference, ignoring their input into the discussion and eventually forcing them to disconnect and call right back. I must have dialed in a dozen times. When the GEnie people finally got things under control an hour and a half later, it turned out that Sam had another appointment and would not be able to answer more questions.

In spite of these initial difficulties, though, if you'd like to get closer to the ST community, GEnie would be a good place to do it. Other users, developers and now Atari staff can be found on-line, not to mention a treasure trove of public domain software. If you'd like to sign up, call 1-800/638-8369.

EVEN MORE NEW SOFTWARE

A lot of good stuff is coming in now, Soft Logik's *Publishing Partner* and Aegis Development's *Aegis Animator* being two of the biggies. These both look very professional, and I hope they'll be setting the standards for future ST products. I'll be talking about them in next month's column.

In the meantime, though, MichTron (313/334-5700), perhaps the most prolific publisher of ST software, has released *Karate Kid II*, a martial arts game based on the Columbia Pictures film of the same title. As you might have guessed, it consists of a lot of kicking, punching, jumping and "Hiyiah"-ing, all done with lots of colors and realistic animation. You even get the movie's "Glory Of Love" theme song and bonus rounds featuring ice chopping (as opposed to bricks or wood) and the delicate art of chopstick fly-catching. My main complaint is that it's way too short. You can fight a maximum of five opponents in the game, which makes it easy to lose interest once they've been defeated. A two-player mode is included, though, which might give it a longer life if you've got another person around. *Karate Kid II* retails for $39.95. ☐

Helmi Kobler took his first step into the computer world in 1983 when he walked out of Macy's with an Atari 800 in his arms. Still an Atari user, he's now inseparably attached to his ST. He can be reached through MicroTimes or e-mail <helmi> on The WELL at (415) 332-6106.

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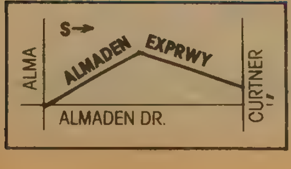

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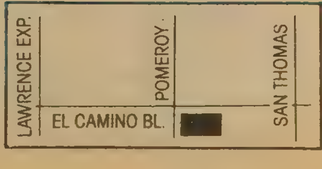

ADVERTISER'S INDEX

3F Associates 37
Aborn 18
Advance Micro Research 53
Advanced Computer 160
Advanced Logic Systems 9
Alpha Fine Furniture 153
Americal 34
American Digital Discount 119
American Ink Products 24
Anthem Engineering 131
Astro Systems 45
BET 75
Beltron 143
CJS 24
Club AT 60, 61
Compac Micro Electronics 129
Compatible Connection 5
Complete Computer Services 30
Compu World 110
Compuclassics 59
Computer Attic 32
Computer Center of Hayward 126
Computer Center of Santa Cruz 28
Computer Furniture 148
Computer Graphics Center 28
Computer Insights 92, 93
Computer Mart 19
Computer Surplus Store 77
Computer Swap, Inc. 85
Computer Teacher 149
Computerland 89
Computown 22
Comtex 42
Corporate America Computer 132
Crescent Com, Inc. 33
CSI 23
D-Data 135
DeAnza College 36
Diamond Software 14, 16
Discount Micro World 117
Eastern 139
ECX 36, 152
EFI'S 148
Emerson Electronics 29
Ergonomic Computer Products 85
Exhibit Emporium 124
Friendly Software 57
Fry's 79-84
Gates/Word Perfect 31
General Printing 145
Golden Gate Shows 122, 144
Golden State Data Products 96
Guenther Computer 87
Guitar Showcase 127
HT Electronics 150
ICB 30
IMC 12
Info Technologies 55
Intellisoft 2
Interface 106
International Video 140, 141
International Video Hi Fi 88
Jet Comp Enterprises 96
Julian Systems 40, 41
Laser Technologies Int'l 6
Link Computer Services 26
Lucas International 150
Mac At Work 133
Macware Plus 88
Managing Technology 39
Manny Lucero Productions 145
Memory Chips 110
Mercury Computers 58
Micro Strategies 62
Microbest 123
Microcom Systems 147
Microsell/Monarch 91
Microshows 52
Microtech International 97
Microware Exceltek 99
MicroWorld PC 76
Nakai (Z-Nix) 157
NYX Computer Consultants 18
OEMI 7
PC Tech 49
Paramount Electronics 151
Payless PC 125, 146
PC Nest 153
PC Tech 55
PC Upgraders 104
Penguin Computers 35
Peridata International 72
Peripheral Land 6
Printer Works 147
Romanicus 155
Rosehill Systems 50, 51
Sam & Assoc 156
San Jose Computer 101
San Leandro Computer 105
Sci Tech Computer Stores 95
Shoreline Software 69
Software City 27
Software for Less 115
Software Resources 20, 21, 64
Software Solutions 10, 11
Storage Data 152
Storage System Engineering 128
Subscriptions 156
Sun Systems Remarketing 13
Tara Enterprises 71
Tatung Science & Tech. 26
TEK 159
The Laser Edge 103
The Repair Company 156
Tokyo Electroland 111
Toptek Micro Center 56
TTX Group 149
Turbokwik 3
UCR 136, 137
Universal Automated Solutions 107
West Coast Computer Faire 130
Western Systems 120, 121
Win/Win Software 150
Winners Circle 109
Xeltec 113
Xenon 25
Y.E.S. Multinational 142

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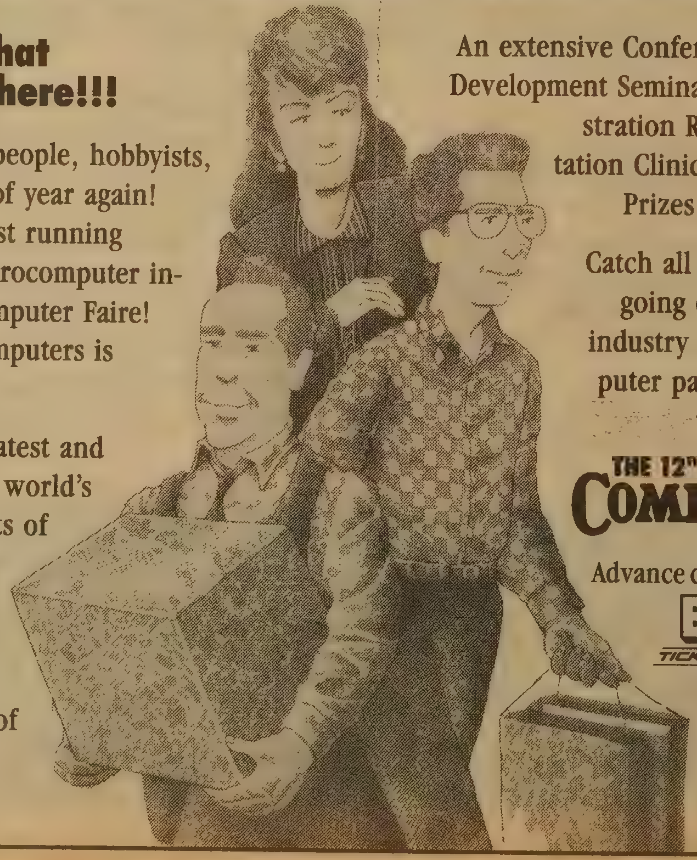

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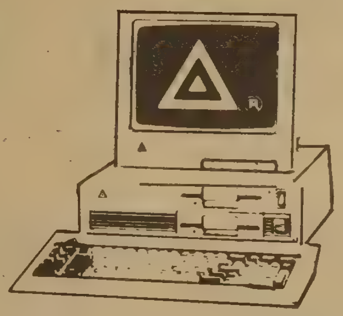

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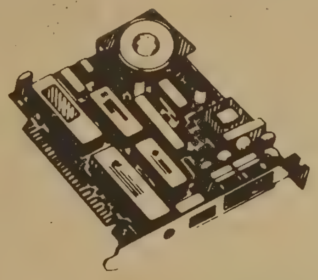

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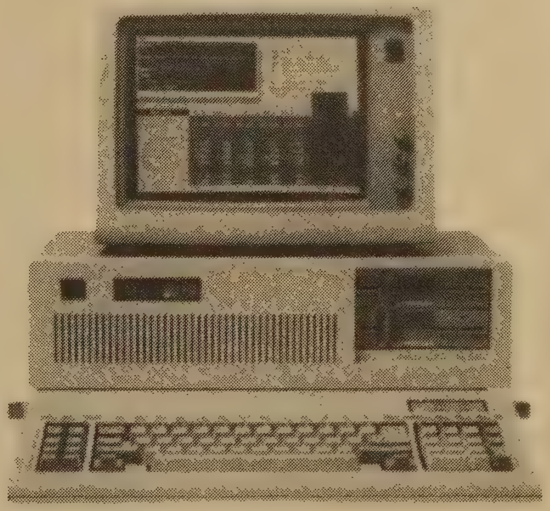

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AMIGA/COMMODORE

What's New At CES

By Matthew Leeds

Boy, have I got a lot to tell you about. Last month I spent four days in Las Vegas at the Consumer Electronics Show, the largest collection of electronic toys under one roof in the USA—audio, video, TVs, and all the supporting products as well. Every year Commodore takes a big booth, shows off their new products, and invites manufacturers to show off their new products as well; this year there were a lot of important announcements.

The PC10, which has been selling well in Europe and Canada, was officially shown to the public as a product for the USA marketplace. It comes standard with serial and parallel ports, a monocolor card (IBM, CGA, MDA, Hercules and Planatronics support), single floppy drive, 8088 CPU running at 4.77 MHz, MS-DOS 3.2, XT compatible BIOS, XT type keyboard, GW BASIC, and five expansion slots. Two versions are available: the PC10-1 has one floppy and 512K of RAM, the PC10-2 has two floppies and 640K of RAM. There is room in each for full or half height hard disk drives.

Another Commodore computer that has been sold overseas is the 128D. It looks like a 128 stuffed into an Amiga case, with a single built-in disk drive, detached keyboard, and a smaller footprint. Best of all, there is only a single cable that needs to be on the front of your desk. Shipping is planned to start in April.

Other goodies include a finalized 1581 3.5 inch disk drive with 800K of storage, a 256K RAM expansion unit for the C64 that solves the power supply problems found when using the 1750 unit on a C64 (bundled with two software programs: a RAM disk driver for native mode, and one for GEOS applications), and a proportional mouse (with optional joystick emulation mode) for use with applications that can take advantage of that capability, such as GEOS.

Speaking of GEOS, the folks at Berkeley Softworks look to be doing very well. Their booth at CES was huge, two stories high. Working versions of *geoCalc* and *geoBase* were shown, as was an eighty column version of GEOS for the 128. It seems that Commodore and Berkeley Softworks put their heads together and found a way to overcome the problems earlier design attempts had found to surpass the video display bottleneck. No release date as yet, but most likely second quarter.

Commodore's own IBM clone, the PC-10.

Electronic Arts showed *Earl Weaver Baseball* on the Amiga. This game is headed for stardom. Split screen displays, artificial intelligence coaching, instant replays, customized ballparks, full stats for data junkies, digitized sounds — the list goes on. Also shown was a beta version of the new *Deluxe Video* with the overscan border eliminated and significantly smoother animation. Finally, *Deluxe Music* is now shipping.

Creative Microsystems Inc. showed the Kickstart Eliminator. This is a set of EPROMS, sockets, PALs, jumpers and software—not for the faint of heart. Once it's installed, something of an undertaking, your Amiga will no longer ask for a Kickstart disk on powerup. It will ask for the Workbench instead, reducing the time you must wait to use your machine. Using the software included with the package, you are able to use the WCS RAMs as memory as well, adding 256K of fast RAM to the system. You must install this yourself or find a dealer or friend to do it for you; it will require some soldering and chip handling. Creative Microsystems has promised to send me a kit, and I will review it as soon as it arrives and I get it installed.

Prism Computer Graphics is finishing up their SMPTE time code reader for the Amiga. It will let you read SMPTE code from source, and comes with software that will let you create and edit decision lists off-line. Drop or Non-drop frame time code can be manipulated. You can select in and out points visually. Support for RS232 transfers of EDLs to other computers or CMXs is supplied. Other software supplied will log starting and end points of edits from edited tape, test for time code continuity, and display time code on the screen.

Matthew Leeds is a writer/photographer specializing in high technology. He has been involved with Commodore computers since 1983. Copyright © 1987 by Matthew Leeds. All rights reserved.

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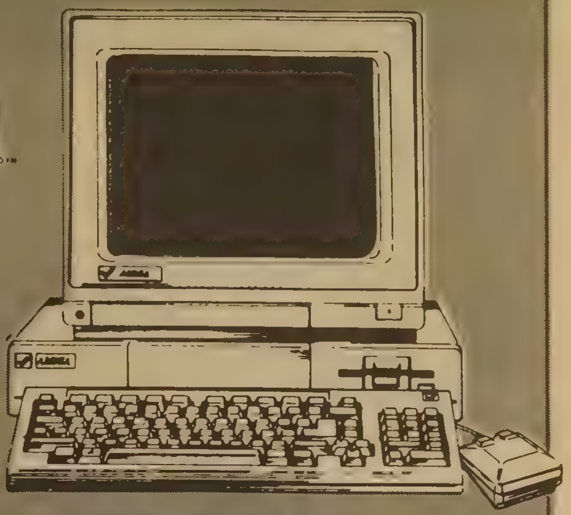

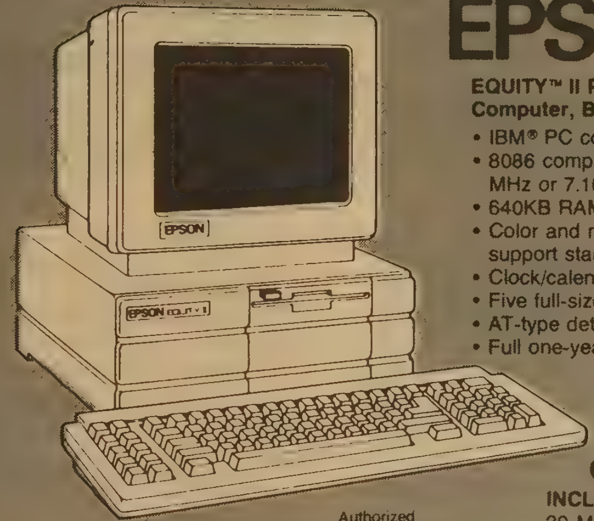

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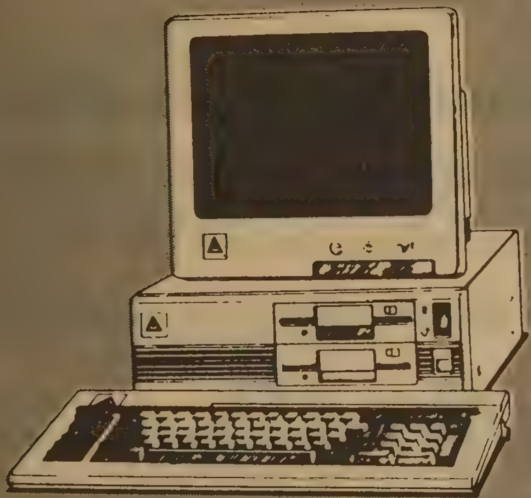

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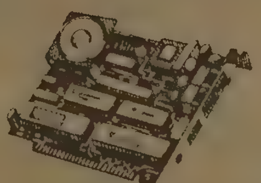

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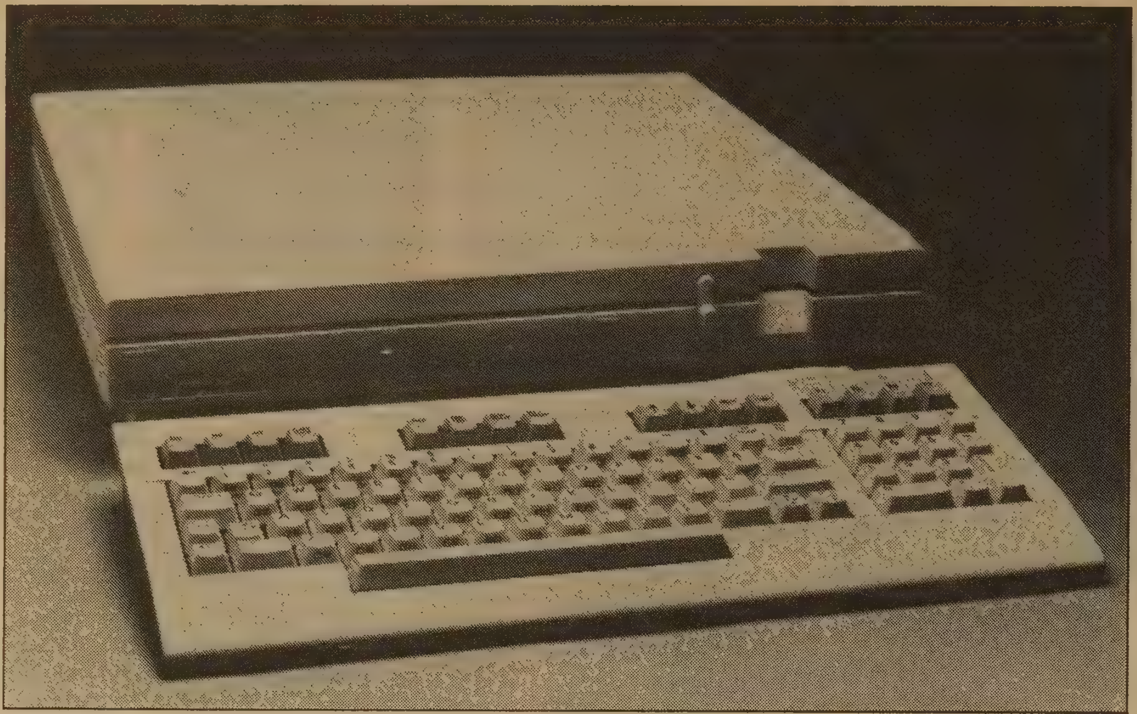

The Commodore 128D shows improvements in design over the C128.

In the 64/128 world, Simon & Schuster showed the 1987 version of J.K. Lasser's *Your Income Tax* program, a timely release which is reputed to walk you step-by-step through the process of deciding which forms to file, and what information to enter; it lets you try out various what-if projections. On-line help screens, an on-screen calculator, and windowing make the whole task easier.

Microcube Corp has one of the most vertical niche products I've ever seen. It's also one of the most interesting. They market joysticks designed as flight controllers for playing *Flight Simulator.* The ATC version is for the 64/128 and offers control over the flaps, guns, brakes, throttle, rudder and ailerons, and elevators. The Amiga version adds radar, view mode, landing gear, bombs, mags, radio, transponder, lights and other controls. The joystick can be put into self-centering mode, and can look like a mouse for use with other applications where there is no room to roll a mouse around. Hooks for applications programmers are also provided.

Microsoft Press was kind enough to give me a copy of *The Amiga: Images, Sounds, And Animation On The Commodore Amiga.* This book wins my award for the most attractive cover of '86. It also contains some of the best explanations of how the Amiga handles graphics and sound I've read. Programming examples in AmigaBASIC are provided to handle BOBs, sprites, sounds, windows, and animation. If you want to understand some of what goes on inside the case, and/or are interested in programming in AmigaBASIC, I recommend this book.

Infinity Software has introduced *Grand Slam Tennis* for the Amiga. I must tell you I'm biased in favor of this game because one of the programmers is a friend. So all I'll say is that it is one of the first games that makes good use of the mouse, has great animations, excellent digitized sounds, enough levels to keep you challenged, and comes in a very attractive package.

There were lots of other interesting items around. Tim Jenison of NewTek showed beta versions of his upgrade software for the DigiView; Anakin Research showed off the Easyl; Karen Bayless demoed a beta version of *ProWrite;* the Sidecar (with FCC passed sticker) was shown; Mimetics had a full-blown sound studio (or so it seemed with all the gear); Liquid Light displayed their film recorder; Byte by Byte showed the TIC clock/calendar; Genlock was once again demoed; as was the Live! frame grabber with new software capabilities. A good time was had by all.

Two new Amigas were shown upstairs to a few selected developers, press, manufacturers, friends and gate crashers. I'll cover them soon enough, but in the meantime I suggest you check out the new issues of *AmigaWorld* and *Byte* magazines for advanced looks. Pluses and minuses abound in the designs, but they should insure a financially secure future for Commodore. ☐

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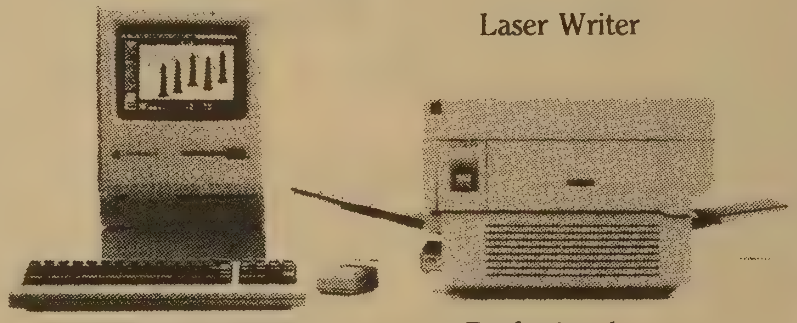

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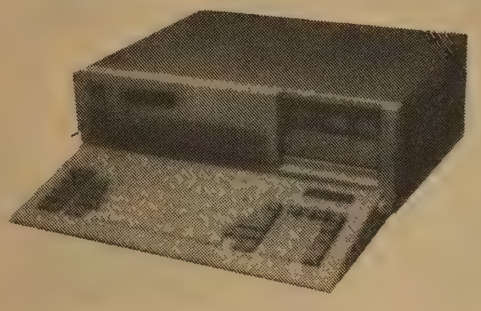

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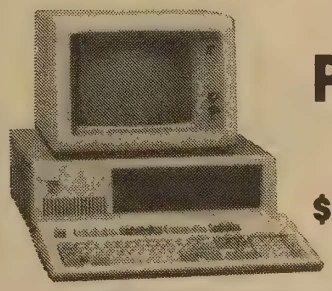

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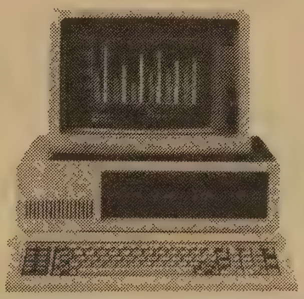

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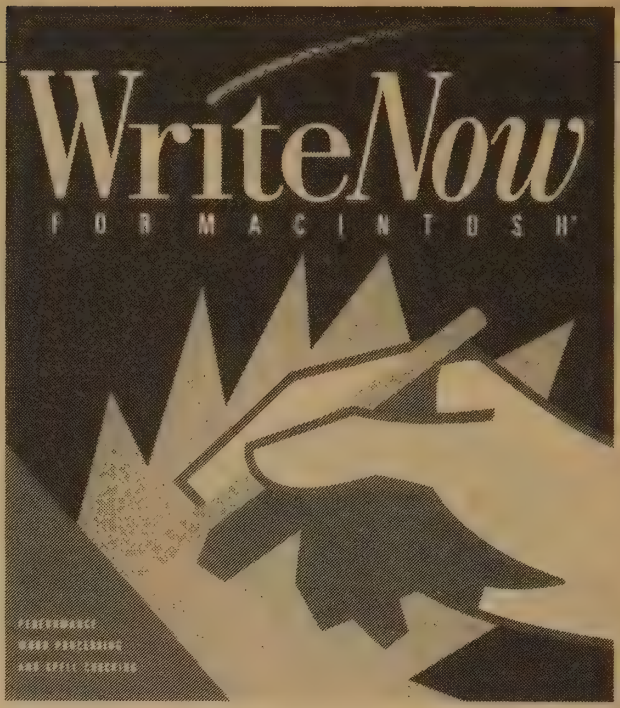
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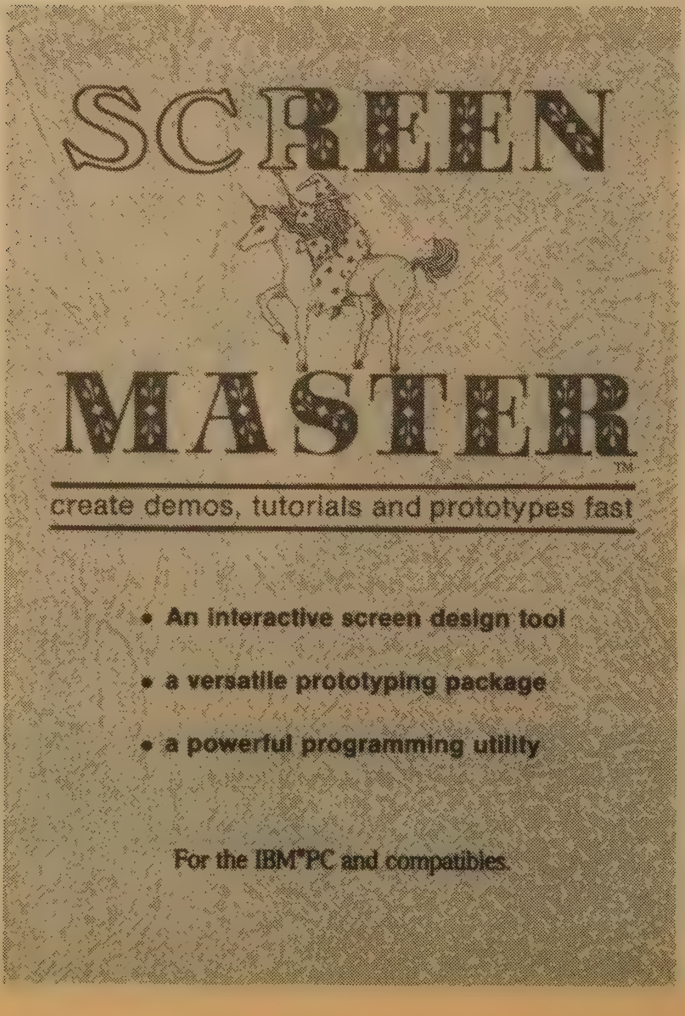
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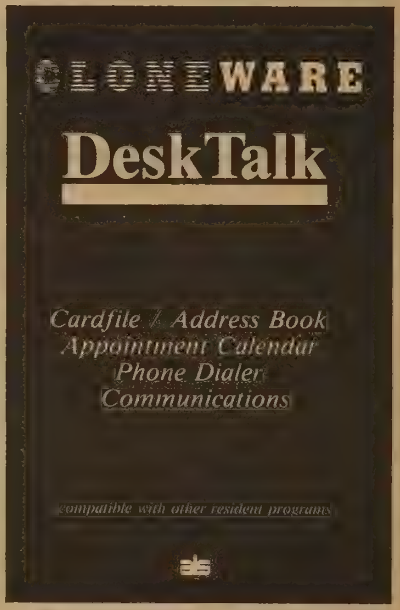
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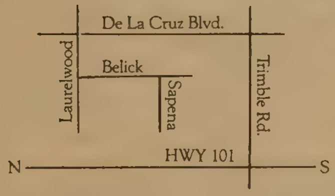

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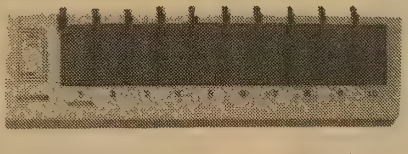

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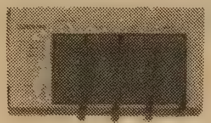

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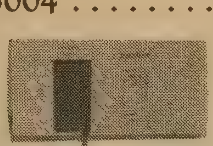

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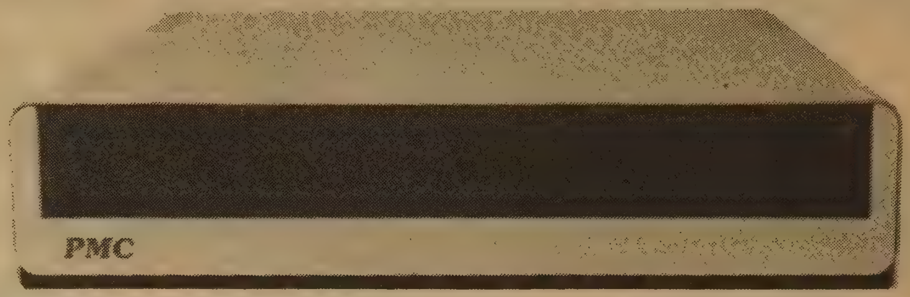

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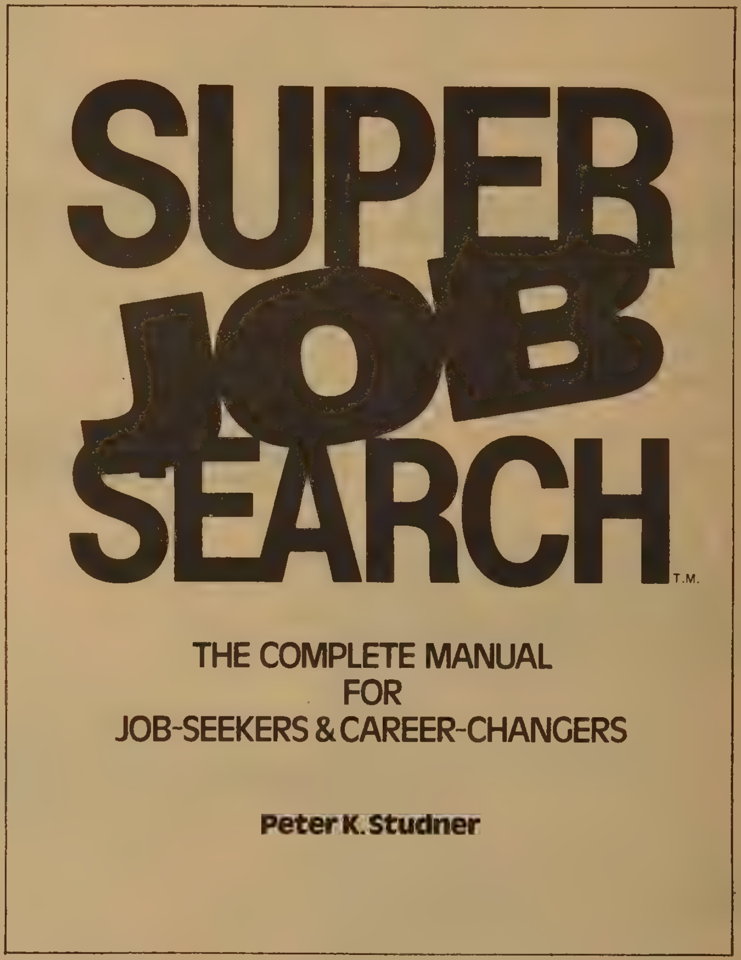

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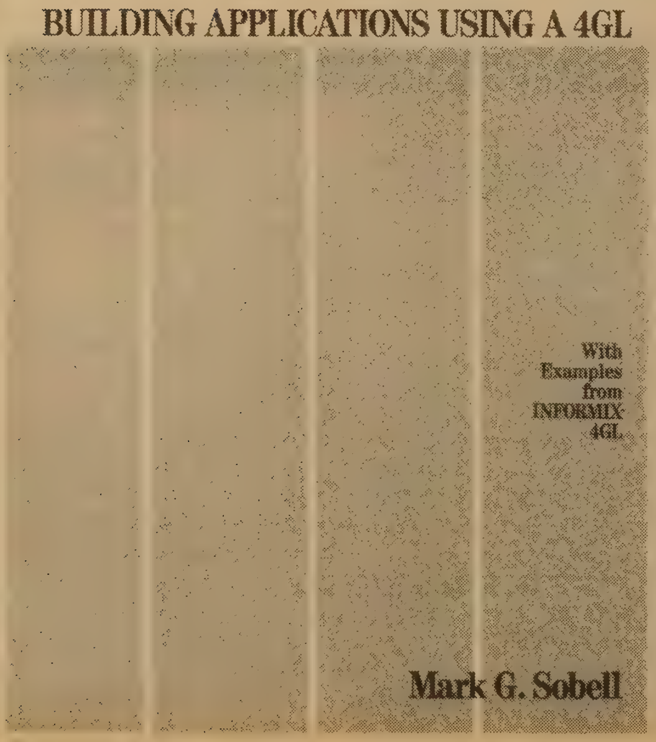

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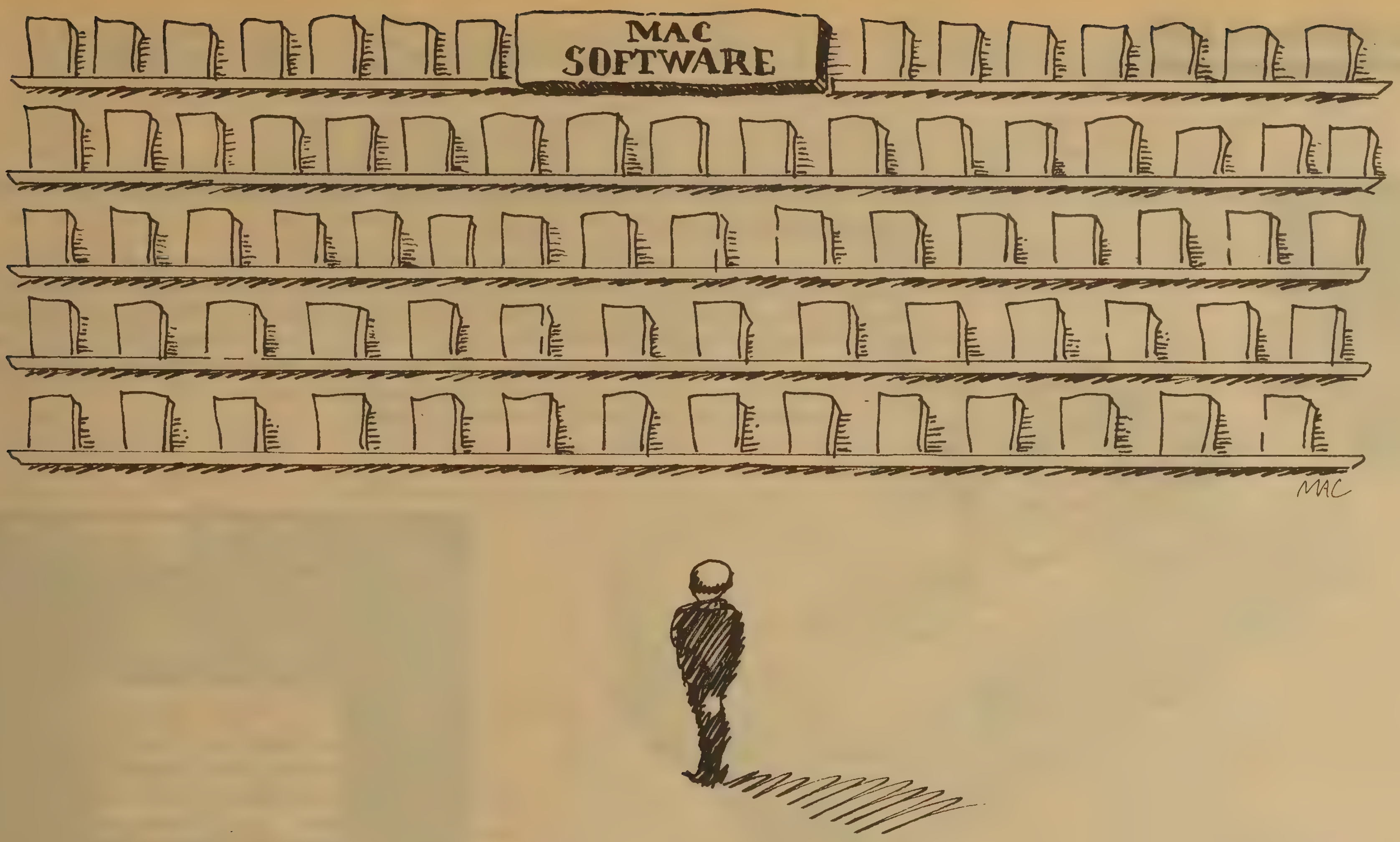

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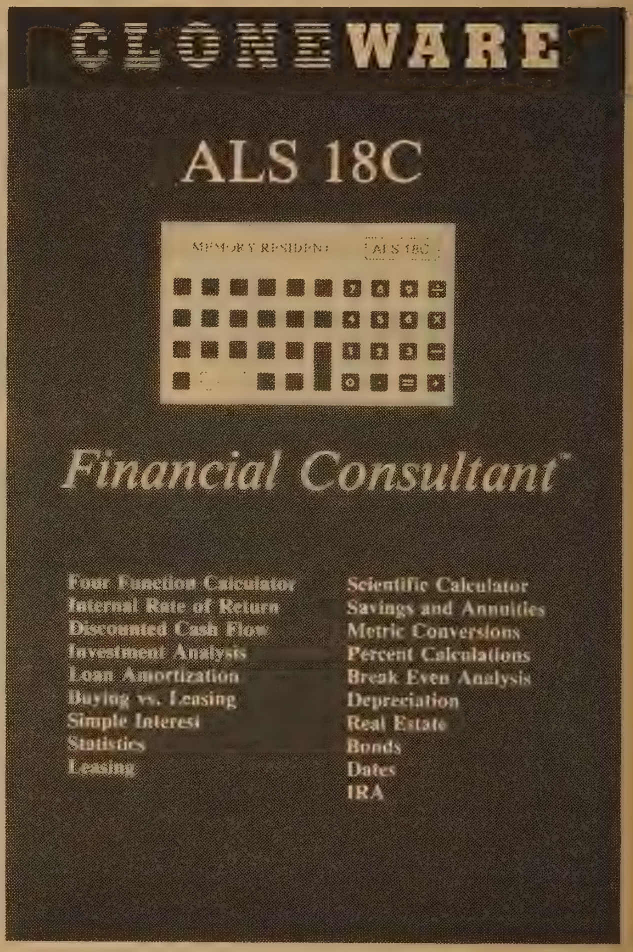
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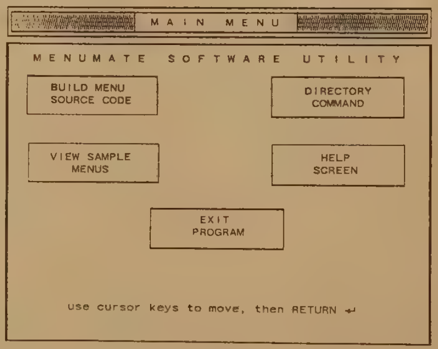
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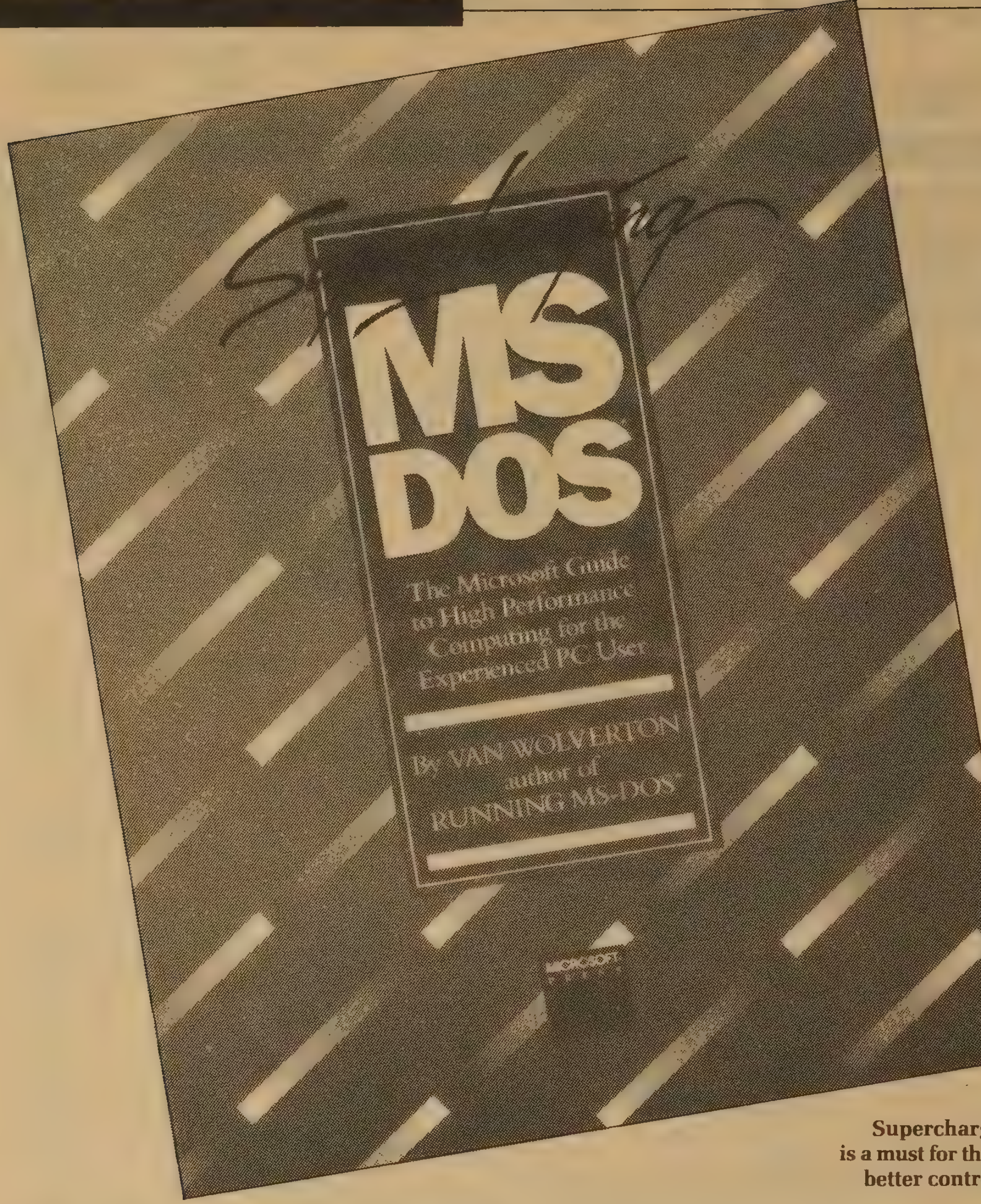
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MS-DOS
The Microsoft Guide to High Performance Computing for the Experienced PC User
By VAN WOLVERTON
author of
RUNNING MS-DOS
MICROSOFT PRESS

Supercharging MS-DOS is a must for those who want better control of their PC.

BOOKS

Supercharging MS-DOS

Written by: *Van Wolverton*
Published by: *Microsoft Press (1986) 320 pages*
List Price: *$18.95 softcover*
Reviewed by: *Wayne A. Yacco*

Van Wolverton's first friendly guide to DOS, *Running MS-DOS*, was originally published back in 1984 and became a classic. Now he has produced a second book which starts where the first left off. If you want to learn how to make DOS jump through hoops, this is probably where you want to start.

Although the cover touts this as a "Guide to High Performance Computing for the Experienced PC User," there is plenty of useful information for even the neophyte who is an avid student of DOS. This book makes you want to throw out your menu program and get your hands dirty.

On the other hand, if you *want* a menu program, the text includes everything you need to create your own, including a complete example in the appendix. This represents a certain amount of work, on the part of the user, but there is also a companion disk available that includes this and all of the other programs, jobs, and scripts in the book. It is well worth the additional $15.95 investment if you plan to use many of the programs.

The contents are divided into three sections. In "Going Beyond the Basics," chapters deal with introductions to the extended character set, **ANSI.SYS**, printer escape sequences, **DEBUG**, and advanced batch-file techniques. Another chapter explains the design of interactive menus. **ANSI.SYS** is used to control screen attributes and keyboard enhancements. This allows the user to send escape sequences that change the way information is displayed and the characters that the keyboard generates for each keystroke or combination.

In the second section, "Customizing Your System," topics include using **CONFIG.SYS** to modify the system's environment; setting up and using a RAM disk; increasing control of the display, printer, keyboard, and menus; and how to manage disk-based files. A final chapter offers a number of useful recommendations that help you optimally maintain and use your hardware.

The final, "Quick Reference," section contains a collection of handy appendices: **ANSI.SYS** commands, Epson-compatible printer commands, character sets, key codes, hexadecimal conversion tables, and the sample menu system.

My only minor objection to Wolverton's approach has to do with his zealous inclusion of **ANSI.SYS** escape sequences. Those users who choose to eschew the **ANSI** driver for speed considerations, or use an alternative driver in its place, may have to modify many of the jobs in at least some slight way. For those few, these jobs may be a little too dependent on the **ANSI** driver.

Even so, the principles are sound and the jobs serve as excellent examples. The author's attention to the user interface, although elaborate, is worthy of study. Though his screens require some work, they are unlikely to lead to confusion. His code also makes provision for inappropriate user responses, an often overlooked requirement.

Anyone who wants to obtain a modicum of control over DOS should be familiar with most of this book. Careful study will propel users well on their way to mastery of their operating system. I recommend it enthusiastically.

WORD PROCESSORS

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Price: Easy Extra—*$149; Easy (without mailing subsystem) $99*
Reviewed by: *Ken Lisec*

Easy Extra is a word processing and mailing system designed for first time users, but it also has enough sophistication and functionality to allow even computer experts to use it. *Easy Extra* performs word processing, mail list management, spelling correction and file format management. It is completely menu driven, with context-sensitive on-line help always available. *EasyMail* enables entry level users to access a simplified yet powerful database application designed to produce mailing lists, mailing labels and customized form letters. The *Easy* word processor is also available without the mail system.

Easy provides pop-up menus in a way that does not interfere with the professional, yet allows first time users and novices to get the information they need when working with the package. The functions menus sit hidden from view until called; by depressing the F2 function key at any time, you call up the first of two menus at the top right of the screen. This menu contains the most often used functions. If the function you're looking for is not on that menu, press the F2 key again.

The help function is activated by pressing the F1 key, causing a "pop-up" window to appear on the top half of the screen. It tries to guess what help you are looking for and presents a screen accordingly. If it guesses wrong, you can go to a help index and search for the specific topic you want.

Operations that require multiple keystrokes—the kind of thing that even professionals need help with—are easy with *Easy*, which tells you exactly what to do on each keystroke. For example, to move a paragraph, select "move text" from the menu. The program then tells you to move your cursor to the beginning of the text to be moved and hit enter. Next it tells you—in English!—to move your cursor to the end of the data you want to move and tap the enter key. You are then prompted to position the cursor at the beginning of the place you want the data moved to and hit enter again. You can also use several commands (called dot commands) to easily set headings, footings, type size, new page, etc., just as you would in *WordStar*.

Being specifically designed for the beginner, *Easy* can reconstruct text deleted by accident. The last deleted text is always available for reinsertion anywhere in the text, and can be used as a buffer for insertion at several points in the text.

Text is formatted and reformatted automatically, depending on the options chosen at the beginning of the current edit session. Also, if you want to change a specific data string, there is a set of commands to find and change it. And again, this is all accomplished with easily-understood prompts and questions.

The built-in spelling checker uses the Houghton Mifflin American Heritage Dictionary; it's invoked from the menu and has only one drawback—the cursor must be at the beginning of the area to be checked. Otherwise, the spelling checker is great—it's fast and provides you with menus and options

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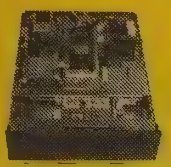

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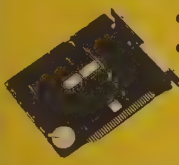

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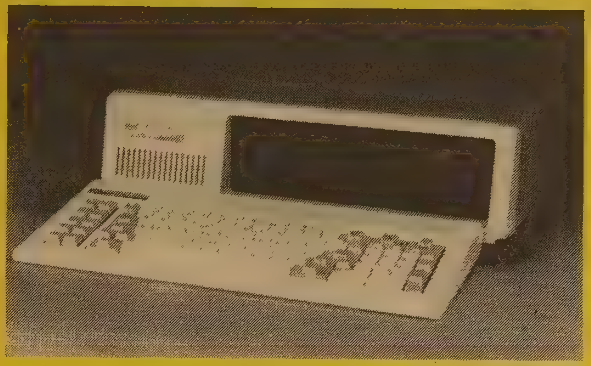

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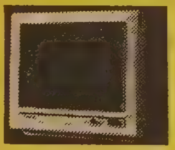

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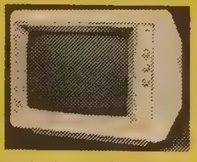

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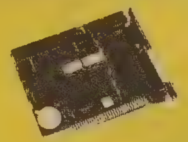

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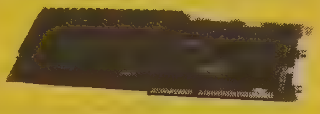

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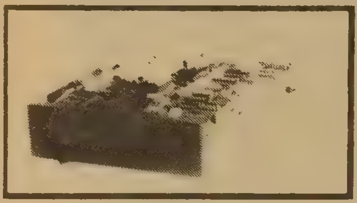

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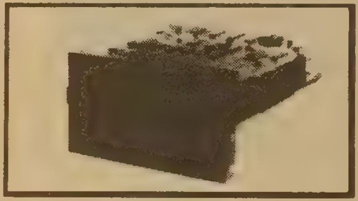

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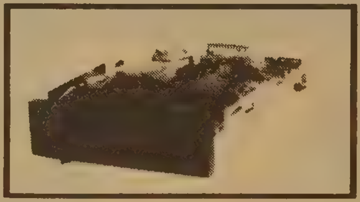

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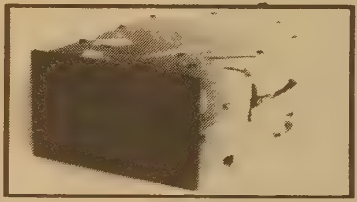

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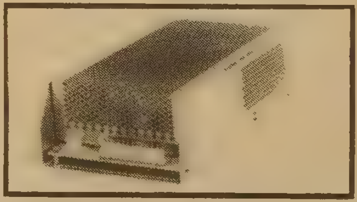

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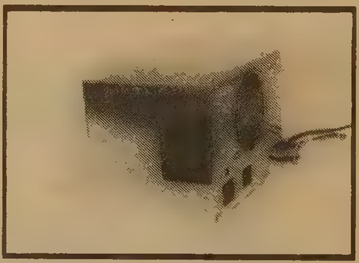

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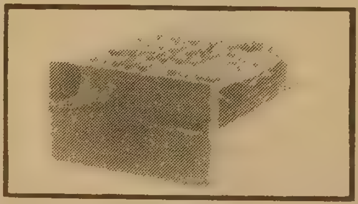

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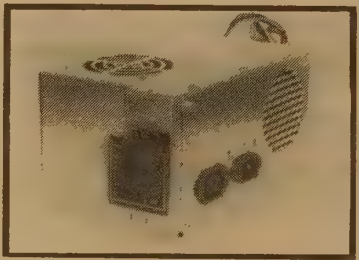

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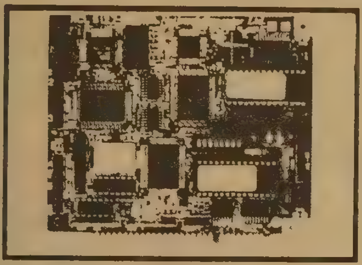

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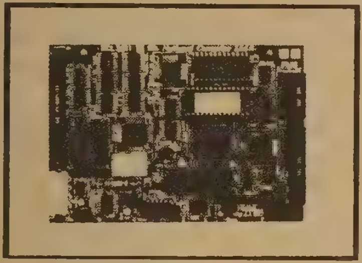
- 2 Mbyte Data Transfer
- Supports up to 16 Heads and 2048 Cylinders
- Overlapped Seeks

NCL 3011 SASI/3016 SCSI Winchester Disk Controller SASI/SCSI Interface Compatibles



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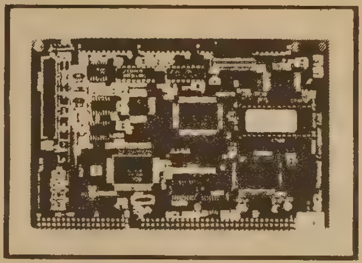

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- Controls Up to 2 Winchesters
- Supports Concurrent Data Operations
- 32 Bit ECC
- ST 506/412 Interface
- 16 Bit Data Transfer
- Supports up to 16 Heads and 2048 Cylinders
- Programmable Disk Parameters
- Overlapped Seeks

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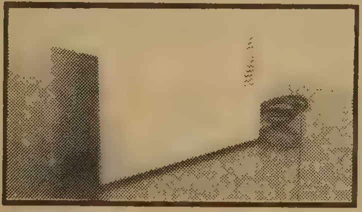

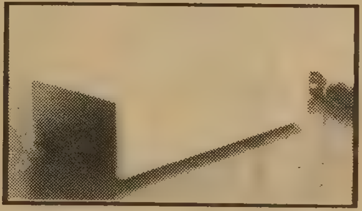

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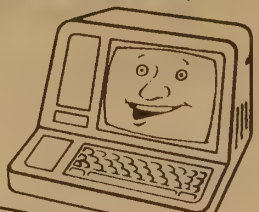

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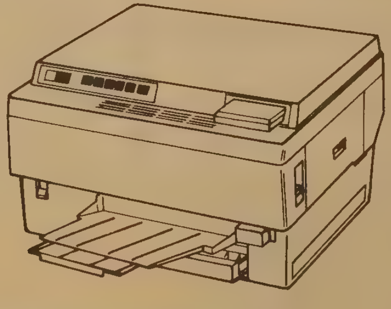

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to correct the text right away, add the word to your dictionary, replace all occurrences of the word, etc. It also searches the dictionary looking for suggestions on how the word should be spelled. This is somewhat time consuming, but of great value to poor spellers.

The *Easy Extra* package includes a mail list database maintenance feature and the ability to use this database to send form letters and the like. *EasyMail* incorporates data entry, retrieval, and sorting capabilities. It is designed to produce multi-segment mailing lists, mailing labels and customized form letters. Data from other records may be duplicated when entering new mailing list records. Up to eight sublists may be created. Customized letters, mailing labels, envelopes, telephone directory, rotary cards and a data base printout can be selected, sorted and printed.

Easy also has an interface to *Lotus 1-2-3*, which lets you include a *Lotus* file anywhere in your text. The file format of *Easy* is compatible with *WordStar*, and *Easy* files can be converted to *WordStar 2000*. *Easy* is also compatible with IBM's DCA (Document Content Architecture) format. The program supports over 240 different printers and lets you use three printers without having to reinstall the software.

Even a first time user will have no problems installing *Easy*. There's no copy protection. It is not necessary to do anything to the **autoexec.bat** or **ansi.sys** files. After installation, simply type **Easy** from the main directory.

I ran *Easy* on an IBM XT and found no real performance problems. It is a little slow when changing functions, and the spell checker seems to perform slowly when it is looking for a suggestion for correction of the spelling. The actual editing and data entry mode is fast, and keeps up with the fastest typist. In the justification mode, word wrap is accomplished smoothly and without hesitation.

Using the tutorial disk even the novice user can be an expert fairly quickly. The tutorial discusses the major functions of *Easy* and shows how to use them. It does not cover the mail subsystem *Easymail*. For a user with some word processing experience, the tutorial is probably not necessary.

The user's manuals (one each for *Easy* and *Easymail*) are oriented toward the novice computer user; they're both comprehensive and clear. There is even a section called "If you're new to computers." This is a ten-page guide in plain English that discusses what a computer and its features are all about.

Error-handling is similarly friendly—a special pop up window fills the center of the screen when an error occurs, telling you exactly what the problem is and, where possible, what to do to get out of it.

Micropro provides telephone support during local business hours in California on its regular San Rafael number. Additionally, you can subscribe to a premium service that provides an 800 number and a newsletter. The support hours are still California local business hours; the cost is $60 for 6 months or $95 for a full year. This premium service seems somewhat expensive, since the basic package retails for $99.

Easy is one of the most affordable word processors and has all the functions necessary for all but the most sophisticated uses. No time is necessary to learn how to use the package, and users can become productive almost immediately. The only caution is that if you expect to require professional word processing features such as indexes, table of contents, page headers and footers and the like, this is not the product for you. However, for the price, the package's functionality is astounding, and Micropro should be commended. (Micropro International Corporation, 869 W. Francisco Blvd., San Rafael, CA 94901, 415/499-1430.)

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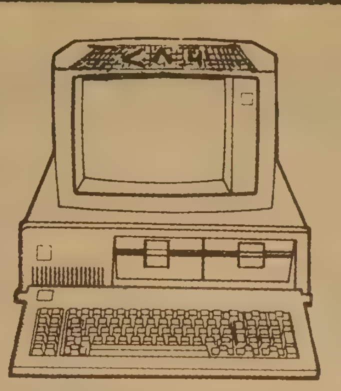

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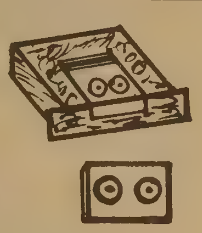

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Price: *$129*
Reviewed by: *Jim Switzer*

WordPerfect Library is a collection of desktop utility programs, program editor, and a DOS shell designed to help you get the most out of your *WordPerfect* word processor and *MathPlan* spreadsheet. If you don't have either of these products, don't stop reading—*WordPerfect Library* can work with any PC program.

WordPerfect Library consists of seven separate programs integrated into a "shell" concept: NoteBook, Calendar, Program Editor, Shell, Calculator, Macro Editor, and File Manager.

The NoteBook program is designed to work with the *WordPerfect* word processor as a merge file manager. If you don't have *WordPerfect*, it's still useful. The NoteBook operates much like a database manager and offers auto-dialer capabilities with your Hayes modem.

The Calendar allows you to keep track of your appointments and "to do" lists apart from each other. It also allows you to post memos to yourself for any given date. What's more, the program identifies "hot" days with a different symbol for appointments, "to do" lists, and memos. The Calendar will allow any dates from 1600 to 20000 and any time of day for appointments.

The Program Editor allows you to edit text and program files as easily as you would edit a file through a word processor. The Shell integrates the WordPerfect products under a menu system which automatically partitions memory to allow multiple programs to remain resident at the same time. This menu system allows you to also access any other of your PC programs from a central location. A "clipboard" is available for transferring data between WordPerfect products.

The Calculator will perform calculations for math, trigonometry, financial, statistical, and programming applications. An on-screen paper tape may be printed, captured to disk, or placed on the "clipboard" for later use. The Macro Editor allows you to edit any macros that have been created by any of the WordPerfect products. The File Manager gives you a more "sophisticated" way of viewing the files within your system, complete with rename, copy, and delete functions. Other features that are available across the entire product are the ability to modify default color settings, add/change/delete menu entries, and support for the Lotus/Intel/Microsoft expanded memory (up to eight megabytes). Another interesting feature is that none of the Library programs requires more than 90K (by itself) to run, and all are able to run as stand-alone programs.

The Calendar program is the best desktop calendar that I have seen—far superior to *SideKick* or *Windows*. The Calculator allows you to switch between the supported calculation functions quickly and easily. The on screen paper tape is great if you're balancing your checkbook or doing your taxes. When you need it, just print it out. The File Manager works like most of its competitors, such as *1 dir*. It will display a two column directory of files with the ability to scroll up and down with a highlighted pointer bar. The commands available are displayed on the bottom of the screen. The NoteBook works similarly to most "flat-file" database systems. Its intended use is to help maintain merge files for the *WordPerfect* word processor, but can be used to store names and addresses, members of committees, etc. The auto-dialer function is available by pressing the F4 function key, with the use of a Hayes (or

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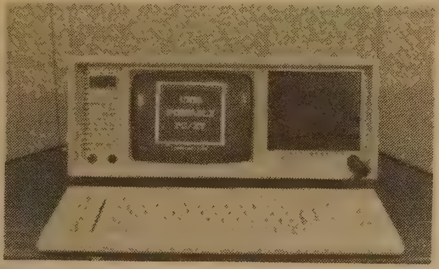

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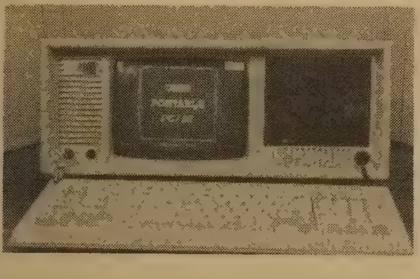

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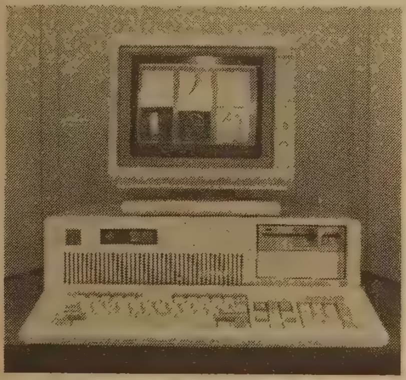

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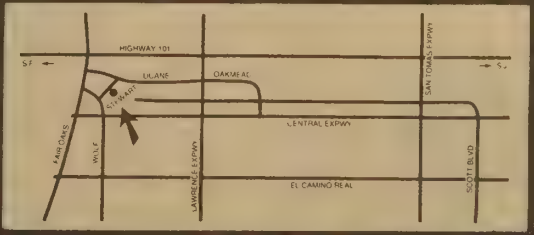

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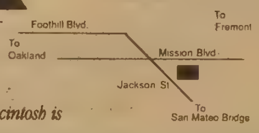

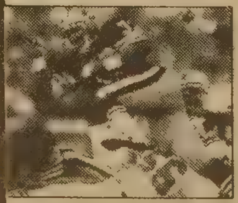

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compatible) modem. Each of the two editors works like the *WordPerfect* word processing package. Extensive use is made of the IBM's function keys for editing purposes. The product performs very well, especially when switching from application to application.

WordPerfect Library is very easy to use. The heart of the program is an application menu that comes to you set up for the *WordPerfect* word processor, the WordPerfect *MathPlan* spreadsheet, the Library programs themselves, and a video game called Beasts. You have the ability to add up to ten other PC programs to the menu (twelve if you do not have either *WordPerfect* or *MathPlan*). This is done by selecting the Setup command from the command line at the bottom of the screen. You can move any of the applications to other letters, edit the existing application "start up" information, or delete any of the applications from the menu.

From this screen you also have the ability to modify the default color selections for the menu itself. Back on the main menu, to select an application just press the letter that is associated with it.

The Library Shell program operates in the background while taking up only 25K of memory. It will allow you to go directly to another application (if *WordPerfect* product compatible) by pressing ALT, SHIFT, and the menu selection key at the same time. This comes in handy while you're editing and need to record an appointment in the calendar. The Calculator program operates just as easily. Once in the program, you may select the type of calculations that you will be dealing with by pressing the proper function key. The F8 key, for example, will let you process financial calculations such as Present Value, Future Value of an Annuity, calculate payments, etc. The whole Library product is just as easy to work with.

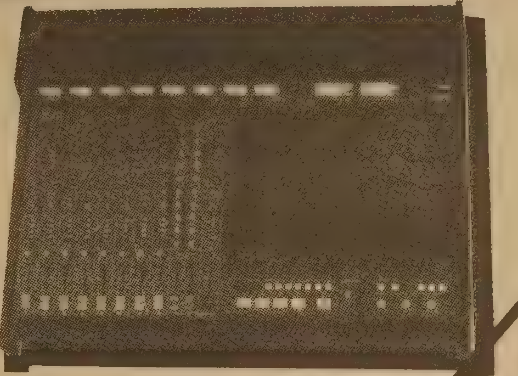
WordPerfect Library has its share of problem errors like most packages this sophisticated. The NoteBook program looks for a particular file when started, can't find it, and displays an error telling you that it couldn't find a file. It just doesn't tell you which one. Also, when printing your appointments, calculator tape, etc. the program doesn't seem to recognize when the printer is turned off. It doesn't give you an error, but just sits there. When you turn the printer on, it begins to print the request from the beginning as it should. Aside from these types of nuisance errors, the program functions beautifully.

The documentation consists of a 325 page, three ring binder/slide cover setup. This manual is broken out into "mini-manuals", one for each of the programs available in the Library. Each has its own Table of Contents, Reference section, and Index. There is at least one sample exercise provided in each of these to help you understand how that particular function works.

The *WordPerfect Library* is for use on the IBM PC, XT, or AT computers with a minimum of 384K RAM. No mention is made by WordPerfect as to whether or not this product will run on any of the compatibles available on the market. This product was tested on an IBM PC/XT with 640K RAM and an Epson MX-80 printer w/Graftrax. If you have any questions regarding whether or not it will run on your equipment, contact your local computer dealer or the WordPerfect Corporation at the number below.

The *WordPerfect Library* is a terrific product. Everyone should have one. The ability to switch back and forth between applications is what makes it so great. Even if you don't (currently) have *WordPerfect* or *MathPlan*, the programs in the Library package are by far the best desktop utilities that I have seen. I recommend this product to everyone. (WordPerfect Corporation, 800/321-5906.)

GUITAR SHOWCASE



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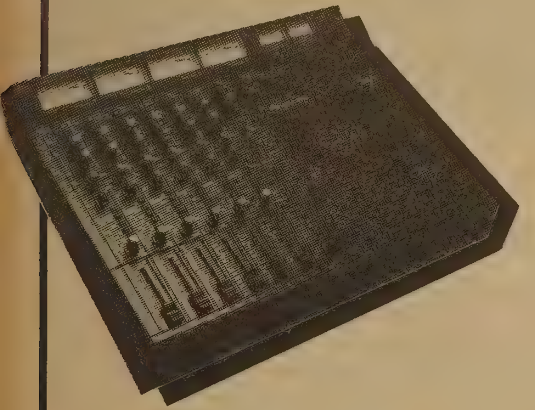

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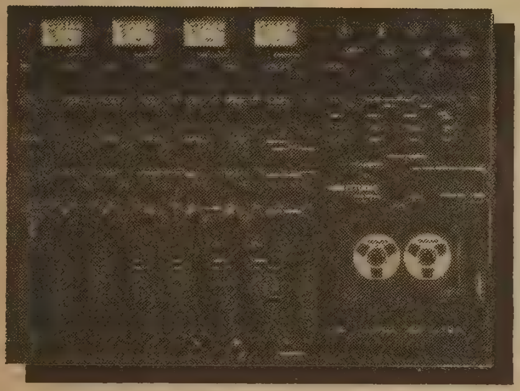

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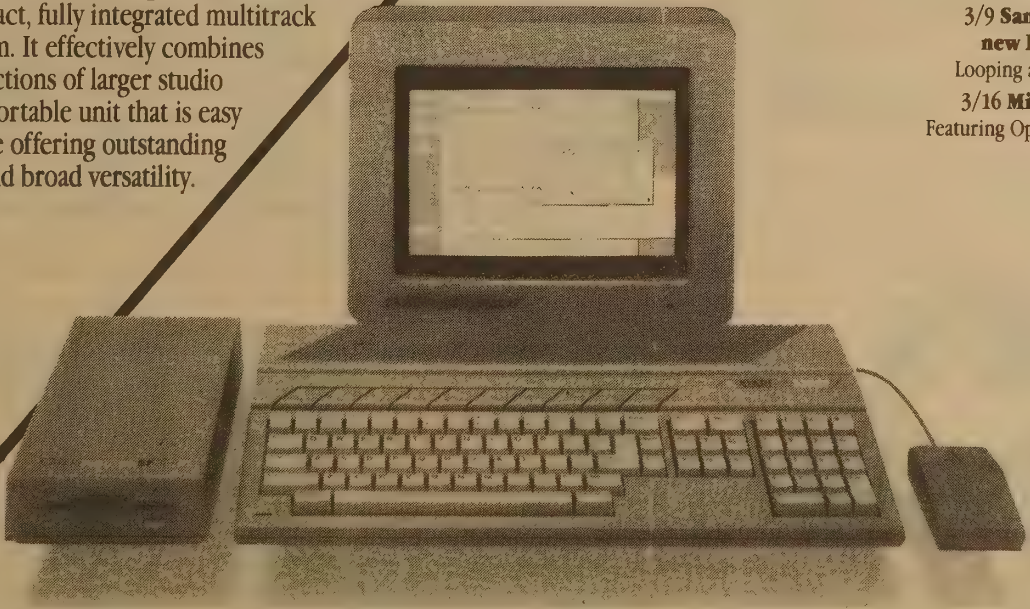

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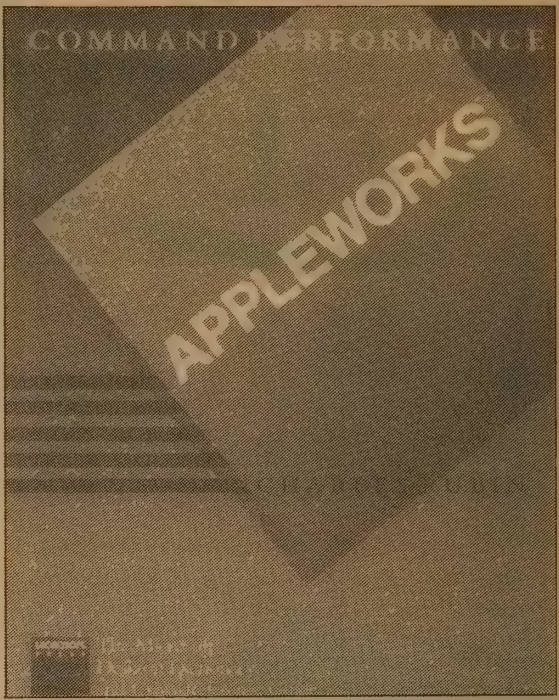

For those who need a little extra information and support, Charles Rubin's AppleWorks is a valuable reference.

Command Performance: AppleWorks

By: *Charles Rubin*
Published by: *Microsoft Press (1986) softcover, 396 pages*
List Price: *$18.95*
Reviewed by: *Mike Markowitz*

AppleWorks has perfectly good documentation: a thick manual, an extensive tutorial, a quick reference card, even built-in Help screens. Nevertheless, there is a ready market for books that purport to explain the program. After all, most of us never read the manual, and even if we do, we don't always trust it.

Command Performance: AppleWorks is billed as a "desktop dictionary and cross-reference guide." It is organized alphabetically, with entries covering every command and major program feature. The design of the book uses color (light blue) effectively, and small icons are used to tag each entry as pertaining to the Word Processor, the Database or the Spreadsheet. Screen illustrations are used lavishly as examples.

There is a very good concise summary of ProDOS (the operating system under which *AppleWorks* runs), an entry on using the program on a hard disk, and an entry called "Tips and Tricks." This is a book to keep beside the computer for help in emergencies, but it is also a book for casual browsing. It is a good way to learn the intricacies of a product that is more than just a program — it's a way of life.

Charles Rubin has written a previous book on *AppleWorks* and is a frequent contributor to microcomputer magazines. He is a careful, meticulous writer; this is not a chatty or humorous book.

The descriptions are up-to-date for Version 1.3 of *AppleWorks*. There are no specific references to earlier versions. The recent release of Version 2.0 should not make the information obsolete, however.

There are no references to non-Apple hardware or software enhancement products for *AppleWorks*, perhaps because these are beyond the scope of a standard reference book.

Most users will have no need to spend $18.95 on supplemental documentation for a program that is so easy to learn and use. Unsure beginners will find great comfort here, and even the *AppleWorks* hacker may learn some new tricks.

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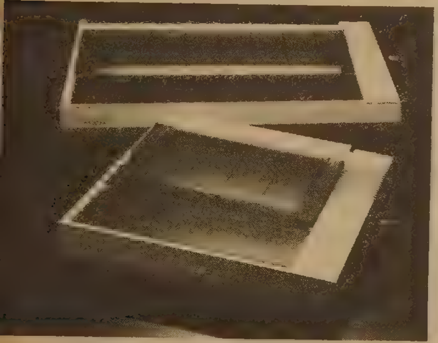

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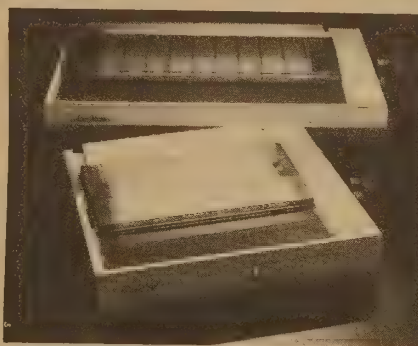

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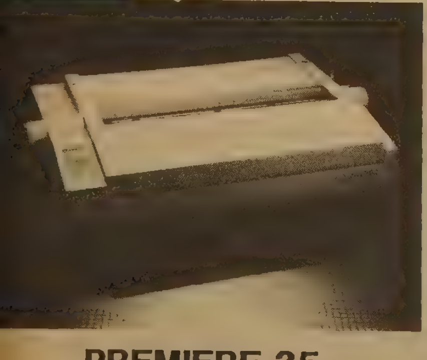

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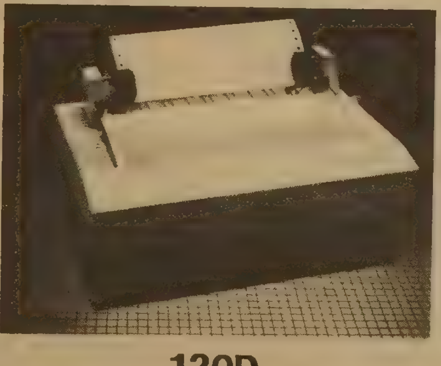

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Twist And Shout

Published by: *Spectre Technologies*
For: *CP/M, MS-DOS*
Price: *$34.95-$39.95, depending on machine*
Reviewed by: *Robert D. Athey Jr.*

This two-for-one offer combines *Shout*—a banner printing program— with *Twist*—a 90 degree reorienting program to print out spreadsheets.

Your first step to using the program is to use your word processor to call up Spectre's "PRINTER.LST" file, which we show; many printers are supported. Since many banner and graphics programs have difficulty supporting a broad range of printers, this is a particularly attractive feature. Based on the overlay assignment for your printer, you get out of the word processor and rename the overlay file to be called "PRINTER" so the *Twist* and *Shout* programs can call it when it's needed.

Another unique feature of the Spectre approach is the inclusion of the "How to Use 'PROGRAM-N.AME' For The Impatient User." Both programs have this instruction set as part of their first page of instructions. The instructions are clear and easy to follow, with further detail explaining why the menu is set up the way it is and how to make stylistic changes. Spectre includes a diagram for the *Twist* program that shows how the dimension definitions they use in the control menu look on the paper.

The *Shout* program offers three fonts, Times Roman, Sans Serif and Olde English in completely blacked out (or filled) format. You can make a large letter from smaller versions of itself—e.g. a 6" A made up of all As. There are several options for printing: you can put up to four lines of text on your banner, use paper from 8½" to 14" wide, and double-strike the letters to make them darker. The letter height for a single line in 8½" width paper is 7¼", which means your banner can be read from across the football field.

The Twist program is a fairly standard spread sheet re-orientation program, but it worked well for printing out the very wide short tabulations I recently used in a report for the state. The menu is straightforward. The documentation includes tips on how to use Twist with Lotus1-2-3, Multiplan and other spreadsheet generators, WordStar, Perfect Writer and other word processor programs, and data base generation/manipulation programs. This is a particularly good feature, as it is common for users of an ancillary utility to wonder if and how it may be used with the more commonly used big programs.

All in all, this a good package. I do object to the advertisements in the back pages of the documentation booklet, but that's a minor detail. For the $30+ for this utility package, you get some fun and entertainment, as well as very useful features. (Spectre Technologies, Suite E, 22458 Ventura Blvd., Woodland Hills, CA 91364, 818/716-1655.)

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GAMES

Arctic Fox

By: *Kevin Ryan, Jeff Tunnell, Damon Slye and Richard Hicks*
Published by: *Electronic Arts (1986)*
For: *Apple II series, Amiga and Commodore 64/128*
List Price: *$40.00*
Reviewed by: *Mike Markowitz*

Aliens have invaded the Antarctic and are plotting the extinction of the human race by converting our atmosphere to a mixture of ammonia, methane and chlorine. This would be even worse than a third stage Smog Alert in San Bernardino. Only one weapon can fight through mobile armored defenses to smash the alien air converters.

Tanks!

You're welcome.

The Arctic Fox is an extrapolation of present trends in fighting vehicle technology twenty or thirty years into the future. That means smarter electronics, higher speed, a bigger autoloading gun, missile launcher, radar, exotic armor, mine dispenser and (most implausibly) a one-man crew.

There have been dozens of "flight simulator" games for every kind of historical, modern or science-fiction aircraft, but there have been hardly any "tank simulators" before *ArcticFox*. One person can fly and fight even the worst-designed aircraft. But to operate a tank in combat demands the undivided attention of a driver to steer, a commander to search for targets and work the radio, and a gunner to aim.

ArcticFox cuts down the workload by dispensing with the rotating turret. To aim, you point the whole vehicle, just like a fighter plane. The Swedes tried this approach in the '60s in the revolutionary design of their Saab S-Tank. It never caught on

EAGLE TURBO PC

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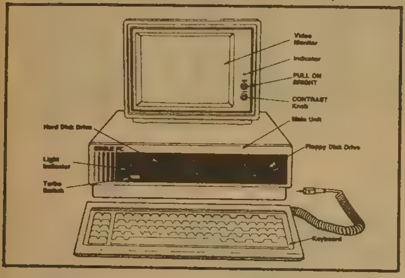

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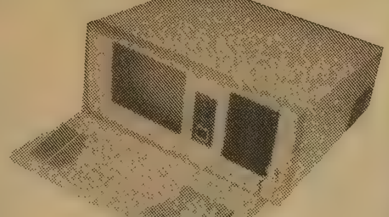

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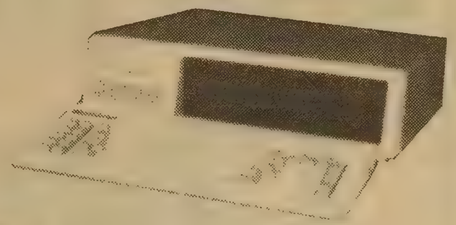

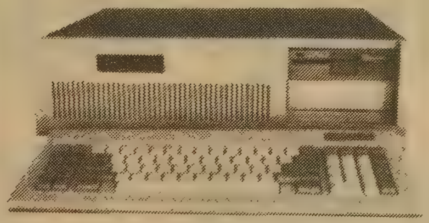

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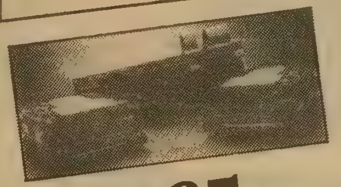

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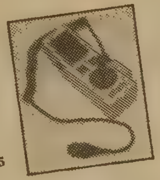

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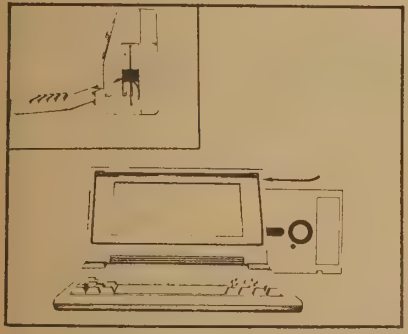

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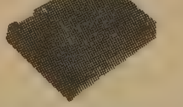

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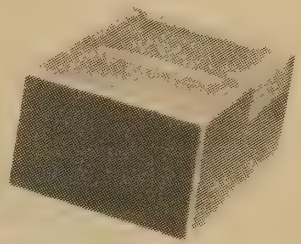

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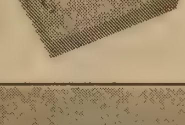

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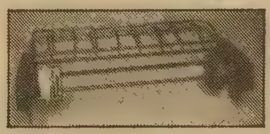

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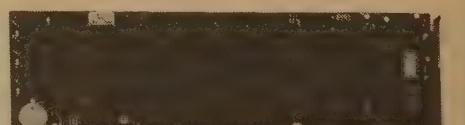

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— too many precision hydraulic components for non-Scandinavian troops to cope with.

The game was originally designed for the Amiga. The Apple adaptation inevitably loses some of the graphic clarity and sound effects of the original. The enemy tanks, aircraft and forts are rendered as transparent wire-frame models rather than solid objects. This cuts down the workload on the microprocessor, but requires a certain willing suspension of disbelief from the user. *ArcticFox* is still an impressive feat of programming.

As you move across the terrain, the scene in the viewscreen changes in true perspective. Since this is Antarctica, the terrain is mostly white, with transparent mountains outlined in black against a clear blue sky. The quickest way to get killed is to drive into an ice crevice. There are "mud flats" that can make you skid, and occasional blizzards that force you to rely on your radar to steer and aim. You are outnumbered about 1000 to one, so expect what tacticians call a "target-rich environment." The enemy fighter planes are especially hard to kill, since they move so fast . . .

There are three levels of difficulty: trainer mode, beginner mode and tournament mode. At higher levels, the enemy gets smarter and you have less ammunition. The control panel is pretty overwhelming. An indicator light tells when you have been spotted. There are readouts for your speed, heading, position, time, missiles remaining, damage and the oxygen remaining in the atmosphere. You use the keyboard to elevate the cannon, move in reverse, fire missiles, drop mines, and dig into the snow. You can also toggle between a rear-view camera and the radar screen. It's quite a challenge to make the right tactical decision when swarms of fighters are swooping down on you.

When the time runs out or you get killed, a summary screen appears listing the targets you destroyed and a "tactical rating" score.

ArcticFox is a fast-paced, highly demanding arcade-type game. To get the most out of it, the player should become thoroughly familiar with the information in the ten-page "operator's manual" and the quick reference card. It deserves a color monitor and a good joystick. (Electronic Arts, 1820 Gateway Drive, San Mateo, CA 94404.)

Robot Rascals

By: *Ozark Softscape*
Published by: *Electronic Arts (1986)*
For: *Apple II series and Commodore 64/128*
List Price: *Apple $45.00, Commodore $40.00*
Reviewed by: *Mike Markowitz*

A few years back, you may recall a popular game called *M.U.L.E.* from an outfit with the unlikely name of Ozark Softscape (Dan Bunten and Alan Watson). Now they're back — with a computer driven scavenger hunt and card game called *Robot Rascals*.

"I wanted to do a game I can play with my family when we get together at Christmas," says Bunten. "*M.U.L.E.* is just a little too complicated to include the younger family members. So the challenge was to make a game that I can still enjoy if I'm playing against seven-year-olds."

Robot Rascals is intended for two to four players. There are 28 item cards. Four are dealt out to each player at the start of the game. Each player picks a robot that he will direct in searching for the assigned items — and stealing items from other robots. The program remembers each player's name, and picks a random order of play each turn.

During the game, the players scan for items and send their robots out into the computer "wilderness" to retrieve them. The items have wonderfully silly names and cartoon pictures: Digital Donut, Pixel Pencil, Silicon Salad, Buffer Boot, Transistor Taco, etc. Luck cards can force players to swap cards, or give them the opportunity to pass off unwanted cards. You win the game by retrieving all of the items in your hand of cards.

Each robot is animated in its own unique way, so they almost seem to have personalities. Robots store energy, and can exhaust their batteries if they try to do too much in a turn. They can also be damaged moving through rough terrain. Each robot has its own home base, where it can stash items and be repaired.

A twenty-page manual provides set-up instructions and strategy hints. Although the basic game is fairly simple, there are enough options and variants to entertain even the most cutthroat poker players.

The game is packaged in a nice cardboard box. Maybe Electronic Arts has finally decided to give up the useless "record album" style packaging they have always favored. The program is copy-protected, but not even the craziest pirate would go to the trouble of copying two decks of cards.

Can a "social computer game" be successful? If your computer system is like mine, there is not much chance of fitting four people and a discard pile around the monitor, not even very tiny people. It might be possible to disconnect all the cables and drag the computer downstairs to run with the big TV set, but I'd hate to try it. *Robot Rascals* does not work as a solitaire game, unless you have a *severe* multiple personality syndrome.

Nevertheless, *Robot Rascals* is a wonderful bit of silliness. These guys never grew up, and the world is a better place because of it. It would be hard to call this educational software, but schools might find it is a nice way to involve three or four kids with one computer for a pleasant forty minutes or so. (Electronic Arts, 1820 Gateway Drive, San Mateo, California 94404.)

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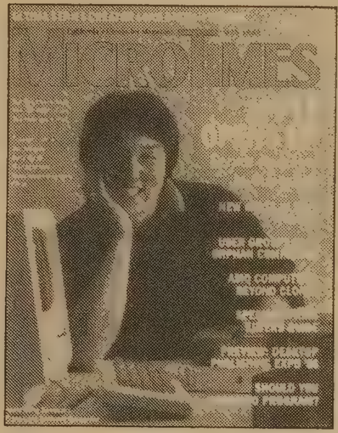

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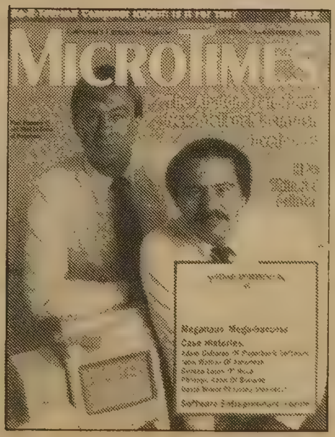

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EDUCATIONAL

Where In The USA Is Carmen Sandiego?

Published by: *Brøderbund (1986)*

By: *Ken Bull, Gene Portwood and Lauren Elliott*
Published by: *Brøderbund (1986)*
For: *Apple II series (64K)*
List Price: *$45*
Reviewed by: *Mike Markowitz*

It is a dark and stormy night, somewhere in Europe. A blonde woman climbs over the gray stone wall of a fortress-prison and slinks away. Too late, the alarm sounds and the searchlights play over the empty fields. Carmen Sandiego has escaped, and America's most cherished treasures are in danger. No, Carmen Sandiego is not the head cheerleader for the Chargers. Carmen and her vile gang are thieves. You are a detective. This is an educational adventure game. You are going to learn a bit of deductive logic and a lot of U.S. geography, painlessly.

To get your assignment, you must sign in. The program will remember your name and keep track of your promotions. You begin in a randomly chosen city, where some item of local importance has been stolen. There are 51 cities (one for each state and the District of Columbia) and 16 villains.

Being intended for younger players (ages 9 and up), the game does not overwhelm you with choices. You can investigate, enter clues about the suspect into your "Crime Computer," check the outgoing flights, or pick your next destination. In each city there are three locations to investigate, such as a Library, a Tourist Bureau and a Sports Arena. The clues you gather help you track the suspect from city to city, and build up a profile: sex, hair color, favorite food, music, sport and hobby. The computer will display a list of suspects that fit the description, and issue an "arrest warrant" when you have narrowed down the list to one name.

The screen display format is clear and attractive. A large window shows a high-resolution color picture symbolic of the city or state (a Hawaiian volcano, the Oregon Coast, the Las Vegas Strip, a Memphis blues singer, etc.). Many of the pictures have nice touches of animation, such as lightning flashes over the Grand Canyon or smoke rising from factory stacks. A smaller window shows a paragraph of descriptive text for each city, then serves to display your clues. As you close in on the suspect, you may catch a glimpse of one of his henchmen in this window. When you get really close, you are warned by bombs, knives and other missiles zipping across the window. When you have tracked the villain to his hideout, you are rewarded with an amusing animated chase scene, including music.

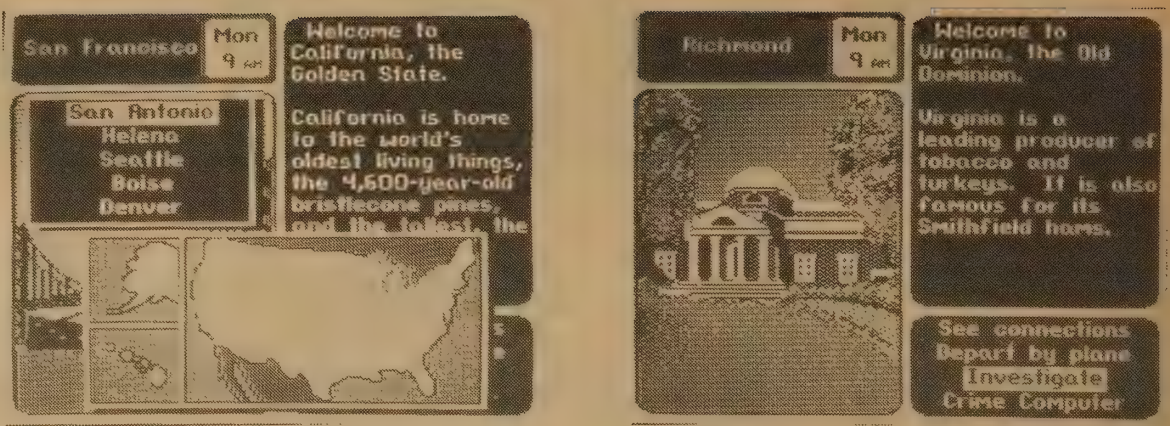
From any given city, you have four or five choices for your next city. A small U.S. map pops up when you make your choice, and the program draws a line from your starting point to your destination.

Nobody does Apple II graphics as well as the programmers at Brøderbund. They have been at it for years and they know all the tricks. Like most educational software intended for younger users, *Carmen* deserves a color monitor. The program accepts keyboard or joystick input, but does not support the Apple mouse.

An earlier program, *Where In The World Is Carmen Sandiego*, was packaged with a copy of the current *World Almanac*. This package includes Fodor's *U.S.A. Travel Guide*, an 800 page softcover filled with tourist information. I cannot resist one quotation:

> Once the poor stepchild of San Francisco, Oakland has added some major attractions of its own. The Port of Oakland boasts excellent facilities. The attractive, huge Alameda sports complex is home to professional football and the Oakland Athletics. Berkeley, Oakland's next-door neighbor, is the site of the magnificent University of California.

(The Santa Fe Bar and Grill is rated "expensive, Creative cooking. Art Deco ambience." Spenger's gets only a laconic "popular seafood restaurant." Chez Panisse didn't make the list.)



Welcome to California, the Golden State.

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Welcome to Virginia, the Old Dominion.

Virginia is a leading producer of tobacco and turkeys. It is also famous for its Smithfield hams.

Where in The USA is Carmen Sandiego? teaches US geography in an adventure game context.

The idea is that you will use the book to interpret the clues you pick up in the course of the game and track down the villain. If you know your native land pretty well you can get by without cracking the book. There is a large folded map of the U.S. with the simple, clear instructions for the program printed on the back. There is also a humorous "Scrapbook" of Carmen's gang, with various Brøderbund employees posed as the villains.

Where In The USA Is Carmen Sandiego? is great fun. It has a sense of humor that will appeal to young users. It contains a wealth of solid information about the United States, especially those parts where hardly anybody lives anymore. Any U.S. geography class in the elementary or junior high grades could use this program to good advantage. (Brøderbund, 17 Paul Drive, San Rafael, CA 94903-2101.)

BOOKS

The Art Of Desktop Publishing

By: *Tony Bove, Cheryl Rhodes, and Wes Thomas*
Published by: *Bantam Books*
Price: *$18.95*
Reviewed by: *Scott Loftesness*

The Art Of Desktop Publishing provides an excellent introduction to the many aspects of successful desktop publishing—from the hardware required for basic to advanced typesetting and the software required for that very professional look. Two of the authors, Bove and Rhodes, were the editors and publishers of *Desktop Publishing* (now *Publish!*) magazine, and much of the book is based on their personal experiences using desktop publishing products to produce their own magazine. The third author, Wes Thomas, heads his own public relations company , and uses many of these same tools in his own business.

"Happiness is owning the means of production." So say the authors as they open their discussion of today's desktop publishing technology. In fact, that's the most exciting aspect about the technology—it's relatively inexpensive and easy to get into desktop publishing. You can put together a Macintosh based system, for example, using the Apple LaserWriter printer, and use it to develop complete publication quality materials. Although LaserWriter output may not be publication quality for books and "formal" periodicals (its resolution is 300 dots per inch), you can easily and quickly prepare and check your document on it and then move the file to very high quality phototypesetting equipment for final composition (typically at least 900 dots per inch resolution).

The key to all this is the power of PostScript (developed by Adobe Systems). PostScript is used in the LaserWriter printer (literally a computer in its own right, with a Motorola 68000 microprocessor and one megabyte of RAM). In addition, PostScript is used in the latest generation of professional phototypesetting equipment, and provides the compatibility required to permit personal layout/preparation on the LaserWriter, followed by migration to the professional composition level if required.

The book covers all of this in considerable detail, providing an excellent overview of the products available and their strengths and weaknesses based upon the authors' actual experience using them. The book segments the discussion into two major families of products: those for the Apple Macintosh family and those for the IBM PC family. Indeed, recently products have been developed which work on both systems (*PageMaker* by Aldus, for example), and these, too, are covered in detail. As you might suspect, the book itself was published using desktop publishing techniques. Electronic mail was used to prepare and review the text, as the authors are located on both the east and west coasts. The text itself was prepared using the JustText product designed to work with PostScript-compatible products. Once the text was in final form, the book was printed on an Allied Linotype Linotronic 100 typesetter. All of this was accomplished in a period of three months, proving to the initially skeptical editors at Bantam Books that desktop publishing technology-could significantly reduce the time involved in book publication.

The authors include an excellent list of companies and their products along with an outstanding glossary of terms used in publishing and computing. Also included is a bibliography of other books and periodicals on the subject. If you're looking for an easy to read yet complete introduction to the "state of the art" in desktop publishing, this is the book for you. You'll find it very helpful in comparing the many product alternatives available as you decide how you might get yourself a desktop publishing system.

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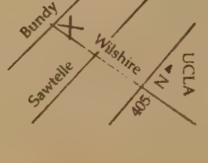

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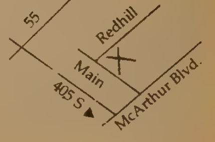

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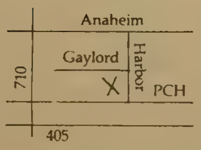

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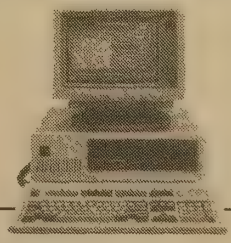

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USER GROUP NETWORK

By Mary Eisenhart

Another great month for mail, and a few face-to-face visits. Thanks to all of you who stopped by our booth at the **Macworld Expo** to say hello—it's always nice to have a face to go with the name. Hope to see you all again soon at the **Computer Faire** in March.

The Letter of the Month award goes to **Jim Bliss** of Long Beach. Inspired by last month's report from **Marvin Reznick,** whose possession of an **Apricot** computer has led him, in desperation, to start a company called **Off The Wall Software** for orphan computers, Jim had a brainstorm of his own. Says he: "I have decided to launch a club for us Apricot computer users. There must be several hundred of us in Southern California, judging by the speed with which we were snapping up Apricots at giveaway prices at the Computerland national sale some months ago. With a little publicity from *MicroTimes* perhaps we can all get together and figure out how to make these nifty machines think like IBMs."

Nice, you say. Flattering, you might add. But Letter of the Month? Well, Jim receives this highly subjective award for the name he's given his fledgling group: the **Apricot Roundtable Group of Hapless Hackers. ARGHH!** for short.

If you'd like to be a part of the history of ARGHH!, give Jim a call at (213) 425-6302, or write him at 7215 Killdee St., Long Beach, CA 90808.

Somebody Please Help These People, Continued: Close runner-up for Letter of the Month comes from **Joe Thornton,** who says "I represent the four ST owners in **Incirlik, Turkey.** We are rather in the back woods over here when it comes to information on the ST and would greatly appreciate getting copies of your magazine. Also, public domain material is of course nonexistent here. Is there a list of what is available? How can we access the material?"

Now, the quick answer is "Call the Atari Base BBS." Atari Base is run by Atari itself, 24 hours a day, seven days a week, at 300/1200 baud, (408)745-5308 or (408)745-2642, and there's tons o' software there. However, from Turkey this is something of a non-option.

We're sending Joe the magazine. Perhaps one of you thriving Atari groups out there would be interested in adopting a Turkish user group? If you think you can help Joe and his cohorts, please write: Captain Joe Thornton, PSC 1383, APO NY 09289.

Another worthy cause that needs help—the **Disability Rights Education and Defense Fund, Inc.** It's based in Berkeley and helps disabled children and adults fight discrimination so they can go to school, find jobs, and participate fully in their communities. Deputy Director **Mary Lou Breslin** reports that DREDF, like many other organizations, is suffering serious financial distress due to loss of federal funding. She adds that they're about to launch a major fund-raising campaign but need some equipment to do so efficiently—a sheet feeder for envelopes and letter-sized paper for an NEC Spinwriter, a copy of *dBASE* that's compatible with the NorthStar Horizon or Advantage (either the CP/M *dBASE II* or *dBASE III* and software that will make it CP/M compatible), a modem these machines can use, and an IBM PC-compatible computer. All donations are tax deductible, and any help you can give will be greatly appreciated. You can reach Mary Lou at (415) 644-2555, or write for more info: DREDF, 2212 Sixth St., Berkeley, CA 94710.

J.W. Evans of Van Nuys is looking for an **IBM PCjr group** in the San Fernando Valley area. If you can help, drop him a line at 13825 Vanowen St. #12, Van Nuys, CA 91405.

User group news: We enjoyed seeing **Fred Duffy,** president of the **Original Apple Corps,** at the Macworld Expo, and were pleased to receive a letter from OAC Membership Chairman **Rich Rollins** a few days later. Rich says that OAC, the oldest Apple user group, is interested in hearing from old members and prospective new ones from the ranks of Mac and Apple II users. There are currently special interest groups for *AppleWorks,* Telecommunications, Educators, and a new one for Macintosh; the club also offers a newsletter and what Rich modestly terms "the best Apple BBS in Southern California" at (818) 767-3805.

The OAC meets on the second Sunday of the month in the Santa Monica Mall, in the community room on the third floor, at 12 noon. Says Rich: "We are interested in having new owners and old hackers, as well as anyone in between, join in. We have lots to offer, and always want to hear from others who can teach us a thing or two." Interested parties can call Rich at (213) 378-0707, or Fred at (213) 396-5515.

If you've been looking for the **Marin/Sonoma PC Users Group** at the Board of Education building, look no more. **Roy S. Levin** informs us that the meeting site has been changed to the Whistlestop Building, 930 Tamalpais St., San Rafael. Meetings are at 7:30 pm on the last Tuesday of the month. The club offers memberships at $36 per year (which includes the newsletter), a BBS at (415) 927-1216 (300/1200, 8-N-1). If you'd like to know more, call **John Hawkins** at (415) 525-8500.

Mac users in Southern California might be interested in the February meeting of **MacValley,** scheduled for Tuesday, February 17 at 7:30 pm in the cafeteria of Burbank High School, Burbank Blvd. and Third St. in Burbank. According to **Ruth Stever,** our faithful correspondent, the meeting will feature a sneak preview by **Ashton-Tate** of a new Mac product (NOT *dBASE Mac,* she hastens to add). For more info, call Ruth at (818) 848-1277.

Chuck Webb of **Silicon Valley FOG** writes in with an update on the club's activities. The club, he says, welcomes users of all types of CP/M-based micros, and offers the entire FOG software library to its members. "One of the most useful features of each meeting," he continues," is a wide-open ad hoc 'problem-solving clinic'—from helping a newcomer get his genealogy program installed to the best uses for PRESTO—our new RAM-resident notepad/calculator/appointment calendar utility."

Surprisingly, Chuck reports that **Commodore 128** users are conspicuous by their absence, and suggests that owners of these machines stop by and check out "all those free utilities and application programs in the FOG library.

"We are seeing a developing 'second wave' phenomenon: people who purchased CP/M systems (often from prior users) for a single purpose such as word processing, and who are only now discovering spreadsheets, data base managers, and the multitude of other applications available to them. It's giving 'CPM LIVES' a new meaning these days; it's fun to watch that 'Wow!' look come into their eyes."

So if you're inclined to Discover CP/M, give Silicon Valley FOG a call at (408) 371-8699. The club holds two meetings: first Tuesdays, 7:30 pm at the Campbell Public Library, 70 North Central Ave. in Campbell, and third Thursdays at the Saratoga Community Library, 13650 Saratoga Ave. in Saratoga.

Hewlett-Packard aficionados will be interested to learn of the existence of **INTEREX,** the International Association of Hewlett-Packard Computer Users. The club boasts a worldwide membership of nearly 10,000, and acts as an information resource for users of the HP3000, 1000, 9000 and Series 100 computers. It also offers a considerable library of user-contributed software. You can reach INTEREX at (408)738-4848, or by mail at User Services Department, 680 Almanor Ave., Sunnyvale, CA 94086. The group also offers a BBS at (408) 746-0834, supporting 300, 450, and 1200 baud, 8-N-1. It's accessible 24 hours a day.

Bulletin Board Listings, Or, The Social Contract Revisited: Our Los Angeles office has been besieged by calls from the hapless new owner of the phone number of a seemingly-defunct BBS whose listing we'd been running. This is not the way we like to be kept up-to-date on BBS listings. We provide these listings as a free service because, among other things, we find the BBS world useful and exciting, to say nothing of important. However, since clairvoyance isn't our strong suit, we don't know your board is a-way unless you tell us, or some irate caller does. *Please* be responsible, and keep us supplied with current information about your board's status. And many thanks to those who are already doing so.

Among the paragons: **Ardy Leenders** of the **Tax Havens—Offshore BBS,** which specialized in legal income tax avoidance "for the ordinary American individual or small business entity." Alas, the changing tax laws have taken their toll on the BBS—says Ardy: "Please remove this listing—due to changes in the trustee program, it is no longer affordable to any ordinary American." So long, Ardy, and thanks.

And **Derek Vincent** of Tarzana regretfully informs us that his **BAMM-RBBS Tarzana** is no more, after slightly more than a year of existence, over 17,000 calls, and zero system crashes on a completely open board. Now, he says, "I just don't have the time to run the board, and if I can't give it 110% then I don't want to run it. Many people tell me BAMM made a standard for future boards to live up to. If it did, the year and a half I put into BAMM was well worth it. I didn't do it for money (I never even took one donation)—I did it for fun and nothing more."

It's not all bad news, however—**Jim Switz,** who told us last month that his **MEBBS BBS/RCPM** was temporarily out of action while he moved, now reports that it's once again up and running under the new name of **SIGSIG.** The new number of (415) 968-7369, 300/1200/2400, 8-N-1. Everybody's welcome, the board is free, and there's public domain software galore for both CP/M and MS-DOS machines, as well as a public-access message system. So check it out.

That's it for now. Remember, you too can send us up-to-date info on your group or bulletin board, either by filling out the coupon in this issue and sending it to User Group Network, *MicroTimes,* 5951 Canning St., Oakland, CA 94609, or by sending e-mail to **microx** on **The WELL,** (415) 332-6106 or (415) 848-0841 in the East Bay. Thanks, and see you next month. ☐

EPSON

FX-86E — 240cps, 80 column	$415
FX-286E — 240cps, 132 column	$579
Epson FX-85 — 160cps, 80 col.	$369
FX-286 — 200cps, 132 column	$479
DX-35 — 35cps daisywheel	$649
EX-800 — 300cps, 80 col.	$485
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LQ-800 — 180cps, 24-pin, 80 col	$549
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LQ-2500 — 324cps, 132 col.	$1,149
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192+ 160 cps, 80 col. Parallel	$389
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2410P, 350 cps, 136 col. Parallel	$1895

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IBM ProPrinter — 200cps, 80 col	$385
Proprinter XL — above but 132 c	$599
IBM QuietWriter II - 60cps, 132 c	$1,295

TOSHIBA

P321 — 180cps, 24-pin head.	$475
P341 — 220cps, 24-pin head.	$799
P351 — 288cps, 24-pin head.	$999

DIABLO

Diablo 635.	$975
Diablo D80 IF.	$2,250
Diablo 630 API, 40 cps daisywheel printer . . . *Sale Price*	$1,250

CITIZEN

MSP-10 — 80 column.	$299
MSP-15 — 132 column	$399
MSP-20 — 80 column.	$389
MSP-25 — 132 column	$559
Premium 35 Daisywheel	$550

STAR GEMINI

SB-10, 24-pin, 80 column	$450

NEC

P-5 Printer, 132 colmn	$969
P5XL Color prints, 132 column	$1,085
P6 Printer, 216cps, 80 col	$499
P7 printer, 216cps, 132 column.	$699

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High speed, heavy duty, 18-pin dot matrix printers for business use.

3404 — 400cps, serial interface	Call
3320	Call

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H-P Thinkjet, 150 cps, 80 col.	$389
H-P Quietjet Plus, 132 col.	$635
H-P Laserjet	$2,289
H-P Laserjet Plus 300.	$2,899
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M-1109 — 100cps, 25cps NLQ, 80 col. 2K buffer, dual interface.	$199
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2024L — 160cps, 24-pin head letter quality dot matrix printer, 136 col. w/tractor, parallel	$845
TwinWriter — Two heads are better than one! 160cps dot matrix and 36 cps daisywheel combined into one printer. Parallel interface	$985
H-R-20 — Daisywheel Printer	$359
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DM-40 — 160cps, 24-pin dot matrix, 136 col., with tractor, para	$899

FORTIS

Fortis DM-2010 — 200cps, 50cps NLQ, 80 colum, emulates Epson FX-286 and IBM graphics printer.	$355
Fortis DM-2015 — Similar to DM-2010 but 130 column	$469
Fortis DM-20 — 160 cps dot matrix, 136 col., NLQ mode, both parallel and serial interfaces.	$525
Fortis DX-25 — 25cps daisywheel, 132 column, 7K buffer, quiet operation, built-in parallel & serial.	$480
Fortis DH45 — Dual head printer, 160 cps dot matrix, 36 cps daisywheel, Epson, Diablo compatible	$985
Tractor for 15XL/HR-25.	$119
Cutsheet Feeder for HR-15/25	$189
SF-200 Feeder for DM-40/2024L	$275

PANASONIC

KX-P1080i — 120cps, 80 column.	Call
KX-P1092 —	Call
KX-P1592 — 270cps, 132 col.	Call
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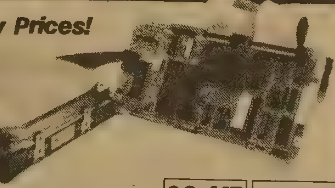
New Low Prices!



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EVEREX 20-MB Internal Tape Back-Up for PC and XT, 4 MB/minute transfer rate. Complete w/control card, cable and manual	$575
EVEREX 60-MB Internal Tape Back-Up for AT. Complete with controller, cable and manual.	$885
EVEREX 60-MB External Tape Back-Up for At.	$995

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Internal half height unit. Direct connects to floppy controller card without taking up a slot. Complete w/$30 tape, software and instruction.	$325
20-MB Internal Tape back-Up	$449

HARD DISK CARDS

PLUS System, 10-MB, slim design	$595
MOUNTAIN, 20-MB	$750
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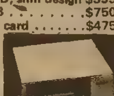
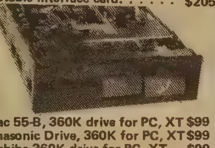


10+10-MB	$1,850
20+20-MB	$2,400
Non-bootable interface card	$150
Bootable interface card.	$205



Teac 55-B, 360K drive for PC, XT	$99
Panasonic Drive, 360K for PC, XT	$99
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360K DRIVE FOR IBM-AT

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MULTI-FUNCTION MEMORY CARDS FOR PC/XT

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Memory installed on card			
with paralle, serial ports & clock	$165	$185	$195
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6-PAK PREMIUM CARDS with Parallel & Serial Ports
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Daughter Board 512K — $195 1-MB — $395

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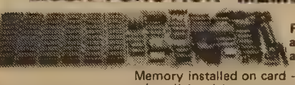

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Memory installed on card w/parallel, serial, game ports, clock	$85	$125	$145

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	64K	256K	1.5-MB
FOR PC/XT	$325	$399	$699
	128K	512K	2-MB
FOR AT	$395	$495	$795

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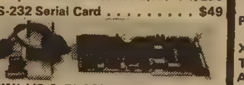
Sigma EGA Color Card	$385
Vega EGA by Video-7	$365
Vega EGA Deluxe Card	$465
Enterprise EGA Color Card	$199
IRMA 3278/9 Emulator Card	$769
Orchid Tiny Turbo 286 — makes your PC/XT runs faster than AT	$485
Taxan EGA Color Card.	$285
Taxan 555 Hi res. color card.	$225
Paradise Color/Mono Card	$199
Sigma 400H Color for PGS SR-12	$455
Sigma 400L Color for Taxan 440/630/640 monitors	$455
Everex The Edge	$275
Everex Graphic Edge	$295
Tecmar Graphic Master.	$465
Tall Tree J-Diskette Controller to hook up 1.2-MB drives in PC/XT	$229
RS-232 Serial Card	$49



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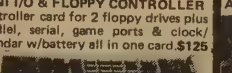

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Compatible with IBM Color Graphics card, w/parallel port . . . $85

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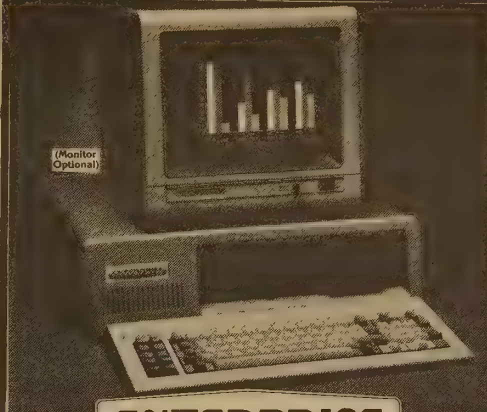
Hercules compatible, with parallel port . . . $89



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ENTERPRISE XT-Plus (4.77–8 MHZ)

- Fully IBM PC/XT Compatible
- Full one-year Warranty
- 640K on mother board
- 150-watt power supply
- 8 Expansion Slots
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- Made in U.S.A.

$499	$699	$1099	$1195
640K memory No Drive	2-360K drives	2-360K and 20-MB Drives	2-360K and 30-MB drives

(Monitor Optional)

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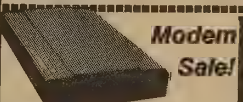
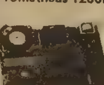
- Full 1-year warranty
- CAD, LAN, EGA ready
- Made in U.S.A.

$1119	$1225	$1875	$1995
640K memory 1.2-MB Drive	1.2-MB and 360K drives	360K, 1.2-MB, 20-MB drives	360K, 1.2-MB, 30-MB drives



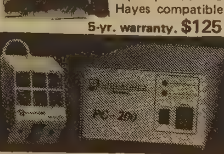
Modem Sale!

Hayes 300, external, 300 baud	$145
Hayes 1200, external, 1200 baud	$365
Hayes 1200B, internal w/software	$339
Hayes 2400, external 2400 baud	$579
Hayes 2400B Internal Modem.	$545
Hayes Transient 1000	$325
AST Reach, 1200 baud *Special*	$199
Watson Voice/Data Modem	$375
Watson VIP	$275
Prometheus 1200 external	$295
Prometheus 1200B internal	$250



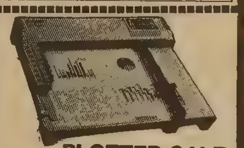
300/1200 BAUD MODEM

Half size modem easily fit into desk top or portable PC. Hayes compatible.
5-yr. warranty. $125



DATASHIELD

Model 100, 6-plug surge & noise protector w/audio & Visual warning.	$65
PC-200, 200-watt backup power supply with built-in surge protector	$279
XT-300, above but 300-watt.	$365
Turbo-350, Super fast 350-watt.	$535
AT-500, above but 500-watt.	$625
AT-800, above but 800-watt.	$685



PLOTTER SALE

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DXY-800— 8-pen, hi-speed 180mm/sec. IBM compatible. 11x17" paper	$Call
DXY-880 — Similar to 800, 8-pen, Hewlett Packard compatible.	$Call
DXY-980 — above but w/digital display & electro-static paper holder.	Call

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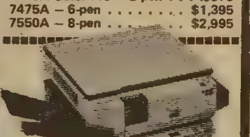
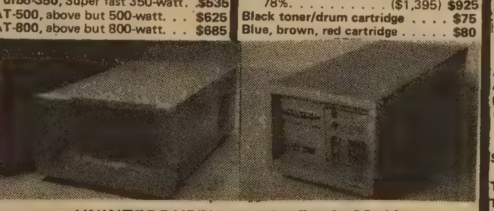
7440A Color Pro — 8-pen	$975
7475A — 6-pen	$1,395
7550A — 8-pen	$2,995



Canon PERSONAL COPIERS PC

PC-10 Copier — Manual feed, compact size. . . ($795)	$509
PC-20 Copier — 100-sheet feeder, 1-19 copies. . . ($1,095)	$699
PC-25 Copier — Make copies up to legal size from original as big as 10x 14. Enlarge 120%, reduce 67% or 78%. . . ($1,395)	$925
Black toner/drum cartridge	$75
Blue, brown, red cartridge	$80

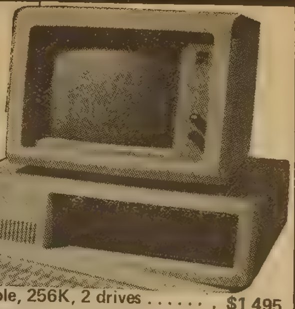


UNINTERRUPTIBLE POWER SUPPLY

Instant battery back-up system guards against black-out, brown-out and voltage surges. Back-up time 5–20 minutes with audio and visual warnings. Compact design. Special prices.

250-watt . . . . $199 400-watt $299

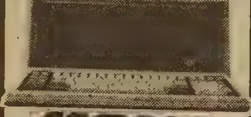
IBM PC XT AT



SALE PRICES

All systems include keyboards and disk controllers. Monitors are available at big savings too.

PC	IBM Convertible, 256K, 2 drives	$1,495
XT	256K, One 360K drive, keyboard (268)	$1,150
	256K, Two 360K drives, keyboard (278)	$1,295
	256K, Two 360K drives, 20-MB hard disk	$2,149
	256K, Two 360K drives, 30-MB hard disk.	$2,295
AT	256K, One 1.2-MB drive, keyboard (68)	$2,395
	512K, 1.2-MB drive, 20-MB hard disk	$3,325
	512K, 1.2-MB drive, 30-MB hard disk (339)	$3,995



COMPAQ

Portable — 256K, 2 drives	$1,575
Portable II, 256K 1 Drive	$2,525
Portable II, 256K 2 Drives	$2,650
Portable II, 640K, 1 dr. 20-MB	$3,550
Despro 128K, 1 drive.	$1,565
DeskPro w/256K, 2 drives	$1,735
DeskPro w/640K, 1 drive, a 20-MB hard disk, a 10-MB tape backup.	$2,495
DeskPro-286, 256K, 1.2-MB dr.	$2,895
DeskPro-286, 512K, 1.2-MB drive, 30-MB harddisk	$3,595
DeskPro-286, 512K, 1.2-MB drive, 30-MB harddisk, 10-MB tape	$4,095
Despro 386, 1.2 & 40-MB Dr	$4,950
Despro 386, 1.2 & 70-MB Dr.	$5,895
Despro 386, 1.2 & 130-MB Dr.	$7,695

AT&T 6300 COMPUTER

640K memory, 1 floppy drive, serial & parallel ports, clock, Monochrome and RGB color ports, keyboard	$1,395
Above with two 360K drives	$1,495
640K memory, 1 floppy drive, 20-MB hard disk, serial, parallel ports, clock, mono & RGB ports, keyboard.	$1,795
AT&T Green Monitor	$225
D.O.S.	$65

MONITOR SALE

PGS HX12, 12" RGB color	$425
PGS HX-12E EGA Monitor	$499
PGS SR-12 — SuperRGB Color	$595
PGS SR-12P Color Monitor	$695

★★★★ RGB COLOR ★★★★

IBM RGB Color Monitor.	$545
IBM Enhanced RGB Monitor	$689
NEC Multi-sync RGB monitor	$599
Quimax PX-IV — 13" RGB, 720x240 line. Has green switch, tilt & swivel base.	$445
SONY KV-1311CR — RGB Color Monitor, 680-line resolution, also a Trinitron Color TV with remote control . . . *A Fantastic Buy*	$495
SONY SPD1302, 13" EGA Multisyn monitor w/900-line resolution	$625
Mitsubishi XC-1410C, 14" EGA Color. Similar to Compaq EGA	$485
Taxan 720 RGB Monitor.	$379
Taxan 635 RGB Monitor.	$449
Taxan 650 RGB Monitor.	$515
Taxan 760 EGA Monitor.	$525
Thompson 14" RGB Color monitor w/ green & amber switch.	$325

★★★ GREEN SCREEN ★★★

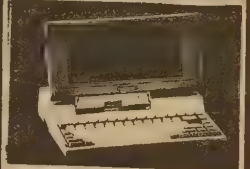
IBM Monochrome, 12", 720-dot	$255
Quimax DM-14G — 13" green TTL, 750x350 resolution, titlt & swivel base included. 1 yr. warranty	$155
Samsung SF39A7, 12" flat screen TTL Green monitor w/swivel base	$105
Taxan 115, 12" green composite	$125
Taxan 121, 12" green, 1000x360 dots, TTL monochrome	$145

★★★ AMBER SCREEN ★★★

Amdek 300A, 12" amber	$149
Amdek 310A, 12" amber	$169
Princeton MAX-12, 12" amber.	$169
Quimax DM-14A — 13" amber TTL, 750x350 resolution. Tilt & swivel base included. 1 yr warranty.	$159
Samsung SM12SFLAA7, 12" flat screen TTL Amber monitor w/base.	$109
Taxan 116. 12" amber composite	$129
Taxan 122, 12" amber, 1000x360 dots, TTL monochrome	$149

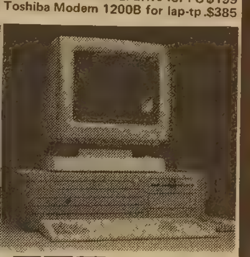
★★★ BLACK & WHITE ★★★

Roland MB-142, 14" reversible black & white TTL monochrome monitor w/ super hi res. 720x350 dots.	$269



TOSHIBA LAP-TOP

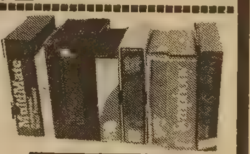
T1100-PLUS — Two 720K drives, LCD screen, battery operated	$1,650
T3100 — One 720K drive, 10-MB hard disk, 640K, amber plasma screen. It is a lap-top AT. 115 volt AC.	$3,195
Toshiba 5¼" external drive for 1100+ and 3100 only.	$445
Toshiba 3½" internal drive for PC	$199
Toshiba Modem 1200B for lap-tp	$385



ITT EXTRA/286

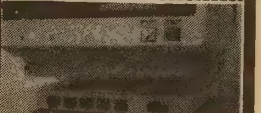
10-MHz AT compatible, 640K, 1.2-MB drive also read & write 360K format. 8 expansion slots. Complete with EGA & keyboard $1,795

ITT amber or green monitor . . . $175



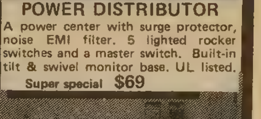
SOFTWARE

Lotus 1-2-3 Ver. 2.	$280
Lotus 1-2-3 Ver. 2.01 5¼" Disk	$319
SYMPHONY	$439
WORDSTAR PROPAK	$279
WORDSTAR 2000+	$299
dBASE III-Plus	$445
XTREE	$45
WORD PERFECT	$199
SIDE KICK	$49



POWER DISTRIBUTOR

A power center with surge protector, noise EMI filter. 5 lighted rocker switches and a master switch. Built-in tilt & swivel monitor base. UL listed.
Super special $69



POWER SUPERVISOR

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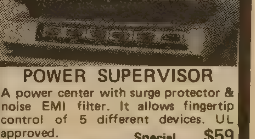

The POWER DIRECTORS

P-22 — A unique control center & surge protector w/4 lighted and a master switches for computer, printer and accessories. It also filters out EMI & RFI interferences	$79
P-2 — like P-22 but w/5 switches	$109
P-12 — Has 6 switches & clock	$149

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BULLETIN BOARDS

209

Region 7 TEC Center BBS. (209) 571-5085. Specializing in music and schools. 24 hrs, 300 baud. Sysop: Dan Guerra.

Inn Finity BBS. (209) 521-6240. Inn Finity is an Atari based BBS. Operates on a 130XE with 320K. Signalman 300/1200/2400 baud, 24 hours a day. ATASCII—ASCII. Sysops Buzz and Jann Kelley.

Bullseye BBS. Stockton, CA. (209) 474-3436. IBM and compatibles. 300/1200 baud. Open 24 hours, 8-N-1. Sysop: Golden Arrow.

The Spotlight BBS. (209) 368-5591. 300 baud, 24 hours, 8-N-1, dual drive Commodore 64 operated. Sysop: The Spot.

213

Gamenet Bulletin Board System. BBS is devoted 100% to gaming subjects. 24 hours, 20 boards, 10 D&D/RPG boards, Alkahest, professional book reviews. Unending Story, Adventurers' Training Ground, Game Hint, etc. Sysop: L.J. Phone: (213) 541-8039.

Aware II (213) 851-0780. Sports BBS with different discussion boards centered around USFL, baseball, etc.

Marina Matchup (213) 397-6300. This Mar Vista-based dating board operates with Martian software.

Lynzie's Motherboard (818) 508-6482/(213) 650-0519. 24 hours, 300/1200/2400 baud, 8-N-1. Private E-mail, download library, dating matchup, interactive chat between users, 4 phone lines on rotary. Public boards include employment, food and restaurant reviews, sci-fi, political, debate, for sale and many more. Monthly social happenings for local users. Sysop: Lynzie Flynn.

Bulletin Board System. BBS devoted to handicappers and racing fans in So. Cal. On line every weekend. Log-on: race data for Santa Anita, Hollywood Park and Del Mar. (213) 934-6026.

Videodrome BBS. Where computers and video meet. (213) 324-5882. Open weekdays 4 pm - 2 am, weekends 12 pm - 2 am. A Commodore 64 system.

HUG1. The official BBS of the Hollywood Commodore User Group (HUG). All HUG members and visitors are welcome to drop by. (213) 874-8256.

The Wargames RBBS. Call for one of the best IBM RBBS around, running with the latest merge for RBBS-PC. Win free time weekly with secret password. Features include the latest PC news, special news reports, BBS listing, messages, e-mail, downloading/uploading, color/music online. Best of all, it's FREE! Operating 24 hours a day at 2400/1200 baud. NO 300 BAUD ALLOWED! Sysop: Jason Lin (213) 393-9777.

International Collectors Network. Coins, stamps, baseball cards, books, records, antiques and anything collectable can be bought, sold, or traded on the International Collectors Network BBS. Regional lists of collector events and shows in many categories. Also names and addresses of many collector organizations. Accessible using PC Pursuit. Data phone available 24 hours, 7 days at 300/450/1200/2400, 8, N,1. (213) 204-0646.

The Computer Consultant's Network, (213) 479-4074. Running a modified version of Martian! Software. 24 hours a day. This is not a job board, but merely a place for computer professionals to network and share information.

ARBBS (Average Remote Bulletin Board System) (213) 325-0213. 300/1200 baud, 8 bits, no parity, 2 stop bits, 24 hours. It includes hundreds of files for Polymorphic, text, Basic, TS1000, TS2068, Amiga, Texas Instruments 99/4A, Apple, CP/M, Commodore, Turbo, Atari. It includes a very extensive BBS phone list. Call now. Free. Sysop Tom Delellis.

Computer Conference Center. (213) 212-5267. TBBS w. Commodore, IBM, TI, Atari, Epson, Apple etc. sub-boards. Large DL with CP/M, MS-DOS and TR-DOS programs. Laurie Flood, sysop.

Hughes Aircraft Message Service. Uploads and downloads for Mac, IBM, Commodore, Atari, etc. Public message boards. (213) 549-9640. 300/1200, 24 hrs., 7 days.

Monolith-1.7 great public boards, private electronic mail, social events. (213) 659-JEDI. 24 hours, 1200/300. Sysop: Erik Goldman.

Mid-Cities Atari ST BBS. 300/1200, 8-0-1, 24 hours. (213) 867-1943. Sysop: Darin Ferraro.

PC Heaven. A multi-computer BBS that features downloads for many different PCs. E-mail, files for various machines, general to SIG message bases. No fees, no special application request forms. Just a fun BBS for everyone. (213) 374-7929. 300/1200, 7 pm-7am M-T, 24 hrs. F-S-S. Sysop: Tony Reeves.

The Mail Box. (213) 402-4079 Lakewood. 24 hours, 300 baud, standard parameters. Features: daily weather, computer news and events, entertainment. Free BBS, sign-on not necessary to read information. Public, for sale, and discussion. Now in our third year. Sysop: Roger Hummel.

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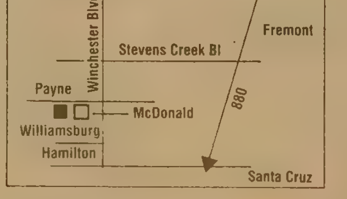

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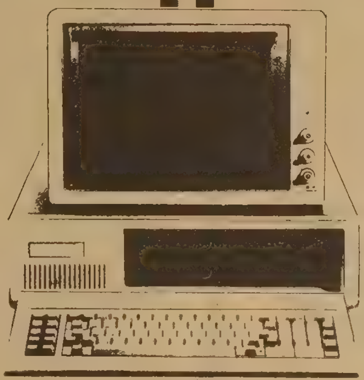

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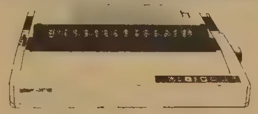

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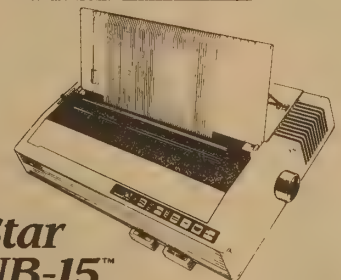

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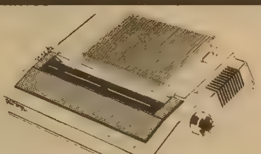

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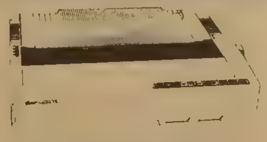

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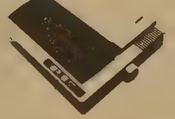

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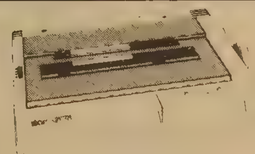

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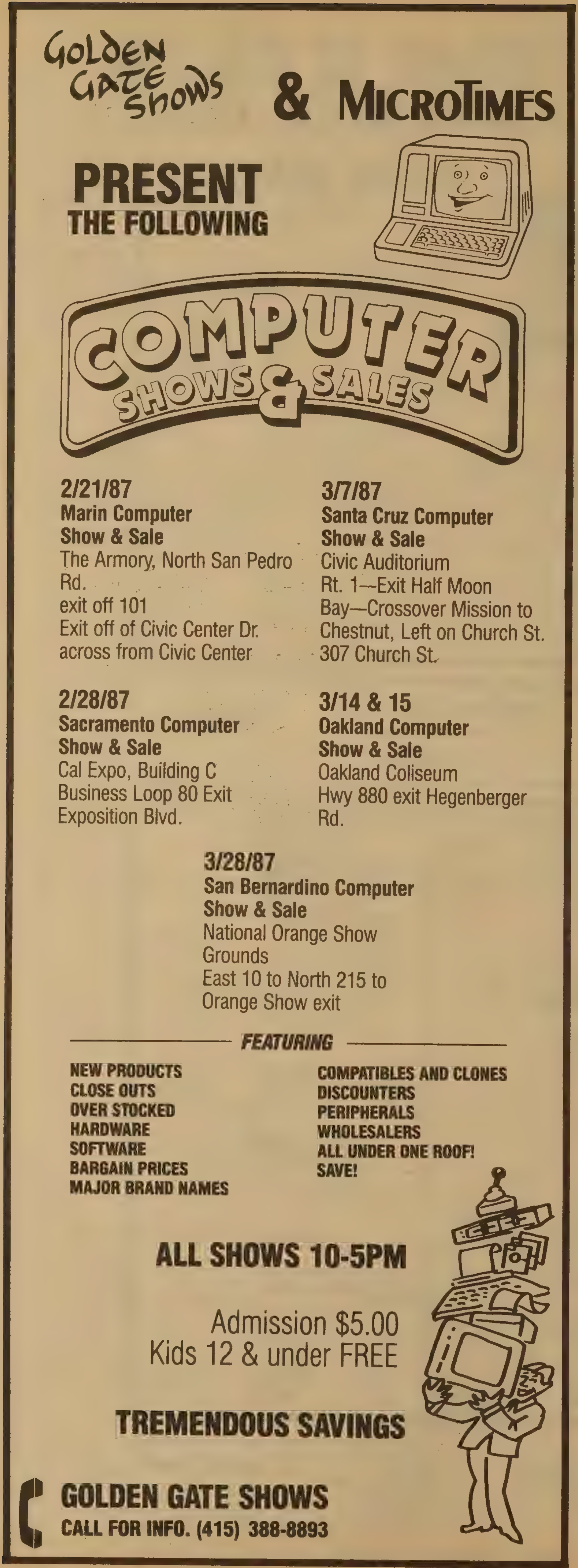

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415

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Actrix Enthusiasts RBBS / RCP/M (415) 968-1783. 300/1200 baud, 24 hours, Free. Registration required. 46 megabyte CP/M system. In Mountain View. Sysop: Andy Bajka.

BBS-JC Just Computing. (415) 961-7250, 7E1/8N1. 24 hours/7 days, 300/1200/2400. Amiga and CBM public domain software. If it's new, see it here first! 8 sections including Commodore announcements are currently in operation. This board is especially for "Silicon Valley" Commodore users. Sysops: Thad Floryan and John Cronin.

Bug's Net HP. This bulletin board has over 20MB of PD software available. Message areas include HP300, IBM PC Technical and consultants forum. Fido node #10/777 (pending). 300/1200/2400 baud. 24 hours. (415) 236-1823. Sysop: John Buginas.

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Silicon Valley Computer Society BBS. (415) 968-6891, 300/1200, 24 hours. Sysop: Herb Shear.

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Programmer's Circle. (415) 239-1722. 8-N-1, 300/1200, weekdays 3 pm-11pm. The Programmer's Circle specializes in carrying source code and tools to aid the programmer. Special attention is given to the Macintosh and Apple II computers, but all computer users are welcomed. Data files are online for the Mac and Apple II computers. Sysop: Roger Gibby.

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SIGSIG BBS/RCP (formerly MEBBS) is back online! Member of the FOG and PRACSA networks. Supporting CP/M and MS-DOS public domain software and a public-access message system. No fees, novices welcome. Online registration for FOG, PICONET and PRACSA members. 24 hours, 300/1200/2400 baud. Sysop: Jim Switz. Located in Mountain View. (415) 968-7369. Call today!

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Cold Moon On A Single Star. (415) 668-6101, San Francisco. 24 hours, Fido board. Chinese culture, history, language, Chinese cooking, discussion, etc. Asian community events. Sysops: Joseph Puig and Susan Chen.

Dr. Don's TBBS. (415) 885-1973, San Francisco. 300/1200, 24 hours. CarTalk and SportsTalk discussion and special interest boards. Private e-mail. All automobile sportscar enthusiasts, sports fans, softball-baseball-football players are invited to call. Sysop: Dr. Don. Co-sysop: Bimmer Pilot.

Centerville RBBS. (415) 793-3037. 300/1200/2400 baud, E-7-1 or N-8-1, 24 hours daily. Sysop: Joe Halbleib.

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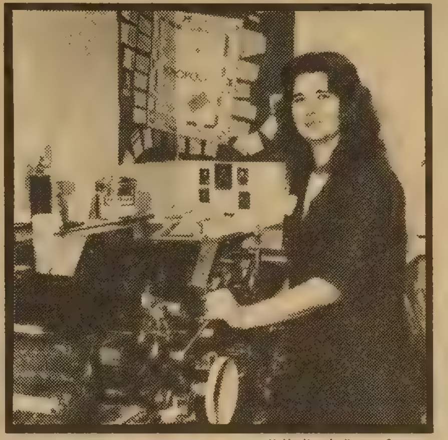

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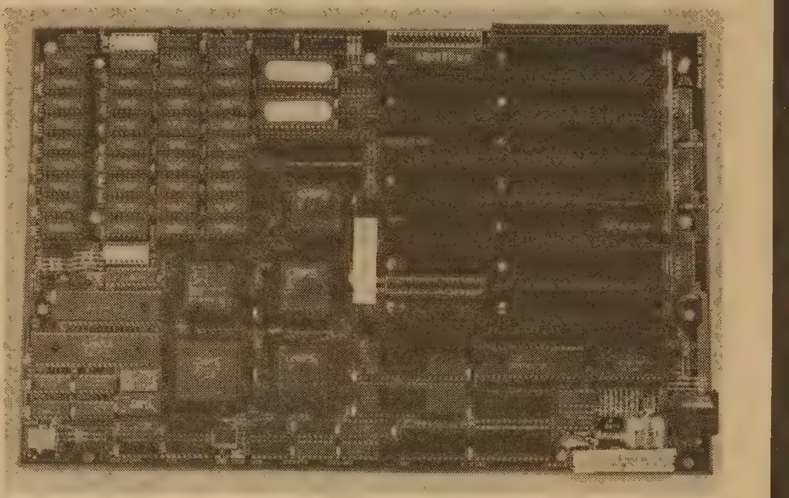

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Marin-Sonoma PC Users Group BBS. (415) 927-1216. 300/1200 baud, 8-N-1. Sysop: Howard Leistner.

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619

Ramona BBS. (619) 789-6235. 24 hours, 300/1200 baud, C128, C64, Amiga, Atari, IBM, CP/M. P.O. Box 373, Ramona, CA 92065. Sysop: Digiteer.

Sysware BBS. 24 hours, 300/1200 baud, (619) 278-8661. Commodore machines only. Sysop: Don Malette.

The Nassau XPress. (619) 433-XPRS. 8-N-1, 300 baud, 24 hours. An information and entertainment BBS with 11 message bases including electronics, amateur radio, computer news, music, adventure games, BBS review. Full access is granted to long distance callers with same day validation for new users. UL/DL available using XModem or Punter. Private e-mail, text files, online games and utilities. Sysop: Dan Wright.

702

Public Domain Software Interest Group. (702) 794-3665. 24 hours, 300/1200/2400 baud, 8-N-1. Public domain software available for downloading, message board, and user supported donations of software. Sysop: T. Heisserman.

707

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STATE BBS ST and 8 bit Atari. Supports all Atari computers. On line surveys, public domain software, discussion and a built in adventure game (if you can find it). 300/1200 baud, 24 hours a day, full duplex. Sysop: Mikkel Lawrence. (707) 585-2194.

Softy's BBS. (707) 437-4334. 24 hours, 8N1, full, 300/1200. An Apple BBS with a technical theme. We have boards for IBM as well. Retail store advertising with discounts for users of this BBS. John Hagen, sysop.

UNIBLAB BBS. (707) 422-1669, 8-N-1, 24 hrs. 300/1200 baud. Community-oriented BBS. On-line games, SIGs, XMODEM protocol, no fee. Sysop: Ben Harris.

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714

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Environet. (714) 731-6439, 300 /1200, no parity, 8 bits, 1 stop bit. David Salahi, sysop. The online source of information and contacts for the environmental community. To log on, use user id 105, password PARKS.

El Toro RBBS/RCPM. (714) 855-0672. 24 hrs. 7 days/week. 300 / 1200 / 2400 baud. No charge, open access, no registration. Specialize in ZCPR3 and CP/M PD utilities. Sections for AMPRO, SB180, dBase II, TPascal, Modula-2, Wordstar, ZCPR3, modems, SIGM and utilities. Over 3000 programs in 88 megabytes online. Public E-mail system. Easy to use ROS system. The collection point for Modula-2 in So. Calif.

K-WEST. (714) 646-3060. 8-N-1, CP/M and DOS. 24 hours, 300/1200/2400. Sysop: Peggy Lloyd.

The Byte Zone BBS. 7 days, 24 hours, 300/1200 baud. Serves all Tandy computers and many others, including MS-DOS. Features adventure help files, electronic mail, message bases and download menu. Sysop: Franco Collino. (714) 639-3566.

Easy On of Moreno Valley. (714) 924-4324. Offering 65 meg of public domain (5000 files) for IBM and CP/M operating systems—Kaypro 10 networked. 2nd biggest library in California, with a local network in Newport Beach and across continental USA. BBS offering private one-on-one tutoring to endusers. Leave msg. for sysop if not available—we return your message and try to assist you. 24 hrs, 7 days, 300/1200/2400. Sysop: Al Cobb.

CMC Computer Systems. (714) 835-0910. Information boards: Apple II, Apple III, Laser 128, IBM, Buy/Sell, hard disks. 300/1200 baud, 24 hours. Sysop: Charles F. McConathy.

Amiga-Line. (714) 772-4097. 24 hours, 300/1200 baud. 100% Amiga for Orange County. Sections for graphics, sound, BASIC, ROM kernel, C, Hardware and Games. Sysop: Tom Jacobsen.

Diamond Bar BBS. (714) 861-7268. 8-0-1, full duplex. 24 hours, 365 days. Sysop: Albert E. Ray, Ph.D.

The WOCCUG Board. Operated by West Orange County Commodore User Group. EBBS, 8-N-1, 24 hrs, 300/1200. (714) 772-4182. Sysop: Mark Stanford.

The Buckeye BBS. (714) 821-0589. C64, Punter, Xmodem, 300/1200 baud, 24 hours. Sysop: Art Collins.

FBBS. (714) 823-3673. 24 hrs., 300/1200 baud, full duplex. 50 megabyte system based in Fontana. Downloads for Commodore, Amiga, IBM, Atari, Apple, CP/M. 17 active message bases, weekly online magazine. Sysop: Larry Krzewinski.

GameNet. (714) 520-4263, 24 hours, 300 baud, multiuser board. This Orange County based system features interactive games, a chat area, and an online mail section. Sysop: Merlin or Patches.

Bits and Pieces Times BPT-#. (714) 630-5619. 300/1200, No parity, full duplex. 9 pm-9 am. Sysop: John Callaci; sub Mike Dalton.

Software Exchange. (714) 552-3515. 300/1200/2400, 24 hours, 7 days, 8-N-1. Specializing in public domain and shareware for IBM and compatibles. Over 2000 programs in 42 megabytes on line. Features include private and public message bases, conferences and online help and menu screens. No charge, but you must register. Sysop: John Coon.

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717

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805

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KERNCOM. (805) 322-8800. 300/1200/2400 baud, 24 hours, 7 days. KERNCOM has operated continuously since March 1983 for the IBM community. KERNCOM is owned by the Kern Independent PC Users Group and is never off line except for routine maintenance. Sysops: Rick Heming and Jim Harrer.

CCCUG BBS. Central Coast Commodore Users Group. (805) 934-2216. 24 hrs/7 days, 300 baud, Punter BBS protocol for downloads. Sysop: Greg Johnson.

PC Vision. (805) 487-3149. 300/1200, 8-N-1, 40 megs. PC-, MS-DOS programs. Sysop: Frank Driscoll.

Tech-Talk. (805) 922-5488. 300/2400 baud, 24 hrs. 21 meg pd software on a 63 meg system. Online registration, instant access to all files, MS/PC-DOS, CP/M. Sysop: Jerry D. Russell. Public access "Collie ver. 1.2."

CompuLink Fido. (805) 494-3350, 300/1200/2400 baud, 24 ours except during netmail. Huge selection of ham radio files; other features include echomail, Outside, and role-playing games (StarTrek, Gamma World, Champions, AD&D, more!!). 20 megs—call today! Sysop: Eric Daymo.

Mustang WILDCAT! BBS. (805) 399-1887. Bakersfield, CA 300/1200/2400/9600 baud. 24 hours, 7 days. This board serves as the development home for the WILDCAT! Bulletin Board System written for the IBM PC. Free access to over 40 megs of download files on your first call. The message section supports conferences in Turbo Pascal, PC Utilities, WILDCAT! updates, electronic stock reports, and many others. Sysop: Jim Harrer.

Affection Connection. (805) 527-7464. 24 hrs., 7 days, 300/1200 baud. Multi-user BBS offering live on-line chatting, matchmaking. Sysop: Devin Woods.

818

Granada Engineering Group RCP/M (818) 360-5053. Technical information, BBS lists, and help on CP/M assembly language program writing.

Oracle BBS (818) 980-6743, system password MICROTIMES, is a multi-interest, multi-user BBS running 6 phone lines on a CompuPro. Features include 8K messages, comments on messages, match-maker, adult material section, online CHAT between users and much more. 24 hr., 300/1200 baud.

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The Hotline Operated by Video Take-Out; callers worldwide. Online orders, The Newsletter, Newsbytes, Hits (records, tapes, CDs, European music). The system is free, easy to use, 24 hours, 7 days, 300/1200/2400. 8-N-1. (818) 766-6442.

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Lynzie's Motherboard (818) 508-6482/(213) 650-0519. 24 hours, 300/1200/2400 baud, 8-N-1. Private E-mail, download library, dating matchup, interactive chat between users, 4 phone lines on rotary. Public boards include emkployment, food and restaurant reviews, sci-fi, political, debate, for sale and many more. Monthly social happenings for local users. Sysop: Lynzie Flynn.

Commodore 128 Dial-Your-Match BBS (818) 842-6900. 300/1200. The ORIGINAL Matchmaker. Sysop: Gregg E. Collins.

Light Artists, LTD. (818) 985-0541. 24 hrs, 300/1200/2400 baud. Sysops: Marty and Gerald Lehtola.

The Mogur's EMS. (818) 366-1238. Private and public e-mail, 20 special interest group message sections, 8 database sections, 27 megabytes, upload/download with xmodem, open to all systems, operating systems and users. Numerous unique and innovative features using custom software. In operation since 5/1/81. Multiuser with two lines, 2400/1200/300 baud, 8-1-N. Sysop: Tom Tcimpidis.

The Dugout. (818) 248-0562. Operates at 300 baud on a TI-99/4A but welcomes all systems. Includes message base, computer events, on-line adventure, xmodem d/l, and more. 6pm-11pm daily. Sysop: Jim Edwards.

The Talk Channel. (818) 506-0620. 24 hours, 300/1200. Sysop: Gary Clarkson. A multi-user, multi-interest system featuring chat on-line with other users. 20 public message boards, including movie previews, casting calls, dining tips, debate and dating boards. 4 questionnaires, one that you answer in your own words, 3 optional. Extremely fast operation on 22 meg hard disk drives.

LAACE (Los Angeles Atari Computer Enthusiasts). (818) 348-8644. 24 hour, 300/1200 baud, 10 meg online.

The Californian. (818) 368-7497. 300 baud, 24 hours. Color Bulletin Board System runs 24 hours a day, 7 days a week. Dedicated to the TRS-80 Color Computer, but other computers welcome. 9 sub-boards, more soon. No fees; only rule—no attempts to crash the system. Sysop: Jay B. Sanders.

Wizard of Osz RBBS. (818) 709-6978. 300/1200/2400, 24 hrs., CP/M or MS-DOS. Sysop: Mat Satuloff.

Atari Resource Magazine (ARM) (818) 446-5813. 24 hrs., 300 / 1200. Currently serving Atari and IBM computer users. Eleven message bases: general chatter, hangouts, advertise, for sale, XE Atari, ST Atari, modem, ul/dl, other BBS #s, Bible, job board. Sysops: Bob and Kim Reynolds.

RBBS (Bondwell SIG). (818) 787-0156. 300/1200 baud, CP/M and MS-DOS, 24 hours, 7 days. Everyone welcome. No time limit. Instant access to downloads. Files available for PC compatibles, Bondwell models 2 through 36. Hardware notes and tips. New product discussions. Sysop: Jon L. Bek.

Dodge City. (818) 241-4401. 24 hours, 300 baud, soon 1200. Great downloads that change every day. Sysop: The Sheriff.

The MacLodge BBS. (818) 444-9850. 8-N-1, 40 megs, 300/1200/2400. Hours M-F 3:30 pm-7 am; 24 hours on weekends and holidays. Macintosh up/downloads, plus Mac info. Mac users only please. Sysop: Dennis Cosio.

Greycastle BBS. (818) 796-5042. The bulletin board of the San Gabriel Valley Macintosh Users' Group. Operates 24 hours per day at 300 or 1200 baud. 5 megabytes available for 8 sub-boards, XModem file transfers on SnAPP software. Sysop: Bryan Menell, CompuServe ID 72307,2100, GEnie ID B.MENELL.

The Outpost RCP/M. (818) 353-8891, 300/1200 baud, 24 hours. Online games, occult and general text files, CP/M, Turbo Pascal. Sysop: Phil Hansford.

AT&T PC6300 Users' Group BBS. (818) 954-0530. 300/1200 baud, 8-N-1, 24 hours. Only So-Cal BBS "officially supported" by AT&T. Sysop: Eric L. Levinson.

Infotronics Computers BBS. (818) 282-7094, 300/1200 baud, 10 am-7 pm Mon-Sat, Sunday 12-5. 20 meg online. Message bases and file transfers for Macintosh (or Atari ST with Mac emulator), IBM (or Atari ST with IBM emulator) and even the Atari ST computers! (All computers are welcome.) We need users! No fee and plenty of elbow room—give us a call. Running on MichTron BBS software for Atari ST.

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AMP PC-RBBS. (818) 570-4406. 300/1200, 8-N-1, 24 hours. For IBM, program downloads and uploads, personal mail, public message system, 40 megs, no fee. New open sale conference for free for sale or wanted ads. Computer products offered at low price. Sysop: Edward Lee.

916

The Vortex BBS. (916) 481-0194. 24 hours, 300/1200 baud. Online and RPG games, new ones start often. Message boards include private mail, Dr. Who, game hints, endless story, play by mail. Vote on movies and weekly survey. Articles and BBS listings. No Fee. Register first call. Pamela Lunsford, sysop.

"The Meeting Place" BBS 300/1200/2400 baud. 24 hours, no parity. AE line for public domain downloads. Apple, Commodore, IBM programs available for download. Numerous general files. No fees, all free. Call (916) 662-1838. Woodland, CA.

Family Radio Forum. (916) 481-6320. Christian RBBS for everybody.

SAC TIBBS. (916) 927-3012. 24 hrs, 300/1200 baud, X-modem downloads, graphics, speech. Free. Sysop: Woody Large.

The Devil's Domain BBS. (916) 268-1127. 8-N-1, 24 hours, 300/1200/2400 baud. 4 sub-boards including main, music, jokes/war, and elite. Up/downloading. General files. Voting topics, online gaming. A BBS devoted to have fun! Sysop: Asmodeus.

ASSOCIATIONS

Community Entrepreneurs Organization (CEO). Business networking group meets in nine chapters around the Bay Area. Share information on tech and non-tech business issues. Topics, brainstorming and a chance to meet others in business. Various week nights. Contact Dr. Crandall, P.O. Box 2781, San Rafael CA 94912, (415) 435-4461. Also new Bulletin Board, (415) 552-9070.

IEEE Computer Societies Committee on Artificial Intelligence and Expert Systems sponsors an open meeting the third Thursday of every month, 7-10 pm, at Foothill College. For more information please call the IEEE council office at (415) 327-6622.

Computer Professionals For Social Responsibility. P.O. Box 717, Palo Alto, CA 94301. (415) 322-3778.

Computer Professionals For Social Responsibility (East Bay). 902 Rose Ave., Piedmont, CA 94611. Contact Bruce Joffe, (415) 768-0288 days, (415) 654-5263 eves.

FOCUS-MED (Federation of Computer Users in Medicine). Open to all physicians and health professionals. Practice management consultant registry. (415) 626-4600.

FOCUS-DDS (Federation of Computer Users in Dentistry). Open to all dentists and dental professionals. Practice management consultant registry. (415) 626-4600.

ITRA Independent Technical Representative Association is an organization dedicated to helping people better understand the Personal Computer (IBM). Contact Tim Jones, 870 Market St. #609, San Francisco,

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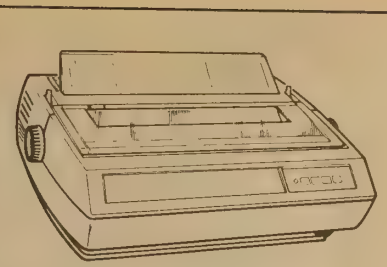

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CA 94102, (415) 421-4872 for meeting time and date.

MCTUG (formerly Marin County TRS-80 Users' Group). MS-DOS, CP/M and Tandy users group. Meets 7:30 pm on the first Monday of the month at the Larkspur Masonic Lodge, 1122 Magnolia Ave., Larkspur. Contact Dr. Frank Hovell, 907 Sprucewood Court, Petaluma, CA 94952, (707) 762-5740.

PRACSA (Public Remote Access Computer Standards Association) offers to clubs, schools, and user groups a Speakers Bureau. The purpose of the bureau is to act as a resource to these groups in obtaining speakers of high quality for their meetings. The volunteer speaker is provided free to the group. Contact (408) 262-5150. Meetings 4th Wednesday, 7 pm, Vadic Cafeteria, 222 Caspian Dr., Sunnyvale.

San Bruno Computer Core. Meets 7:30 pm alternate Wednesdays. Call (415) 952-9309 for address and info.

San Francisco Computer Society (Formerly the San Francisco First Osborne Group). A society for users of portable computers and/or the CP/M operating system. P.O. Box 783, San Francisco, CA 94101-0783. Meetings on fourth Thursday of the month, St. Aidan's Church, Diamond Heights and Goldmine Dr. in SF. All are invited. Dues $10/yr.

Software Entrepreneurs' Forum, PO Box 61031, Palo Alto, CA 94306. (415) 854-7219.

PATCA (Professional & Technical Consultants Association). 1330 S. Bascom Ave., Suite D, San Jose, CA 95128. (408) 287-8703.

BAYMUG. Bay Area Micro-Processor User Group. General computer group, mostly CP/M and S100. All types of interests welcome. Celebrating our 10th year of meetings! Meetings 1441 Rolins Rd., Burlingame, CA, 1st Thursday, 7:30 p.m. Contact Victor K. Bailey, P.O. Box 248, Pleasanton, CA. 94566. (415) 462-4442.

Byte Hum. A user group for computer buffs concerned with human needs, or social activists who want to learn about computers. Let's put all that knowledge to work for social transformation! Sponsored by the Humanist Party. Contact Rick Wall, (415) 495-6555 or (415) 337-2530.

Society for Technical Communication. STC is a professional organization dedicated to furthering the art of technical communication. The San Francisco chapter has about 200 members. Writers, artists and others interested in technical communications are welcome. Meetings 3rd Wednesday of every month, 5:30-7:00 pm; call Sarah Collings, (415) 383-9631 for info.

North Bay Users Group (NBUG). Family computer club devoted to all aspects of computing. Monthly newsletter, library, software demos, etc. Meetings at "CAVE" school, 2nd Tuesday of the month, 7:30-10 pm. Contact Gloria Hutchinson, P.O. Box 7116, Vallejo, CA 94590, or call (707) 644-9327.

Robotics Society of America. Dedicated to disseminating information about robotics, artificial intelligence and machine controls. Mailing address 36 Newell St., San Francisco, CA 94133, (415) 673-2376. San Francisco chapter meets 2nd Monday of the month, 8 pm, Homestead Savings 5757 Geary Blvd. Contact Jim Strope, (415) 552-6564. Berkeley branch meets 6:30 pm, last Wednesday of the month, Claremont Branch, Berkeley Library, Ashby and Benvenue. Contact Soren Knudson, (415) 843-2344. Sunnyvale Pongbotics meets in Sunnyvale on the De Anza College campus, Room 22, first three Wednesdays of the month, 7:30 pm. Contact Bill Lee, (408) 281-2252.

Silicon Valley Computer Society. Meetings 7:30 pm, second Wednesday of the month, Duane and Britton SE corner, Sunnyvale. Contact Dick Verna, (408) 262-2679 for information.

PicoNet. A microcomputer users group. Meets on the second Thursday of each month at 7:30 pm at CMX Corp., 2230 Martin Ave., Santa Clara, CA. Formerly specialized in CP/M software, but has broadened its scope to encompass the entire field of computer-related high technology. Extensive library of CP/M pd software; preparing PC-DOS library. Monthly meetings, periodic newsletter, BBS, C language SIG. Call (408) 374-8090 for recorded message on next meeting's topic.

MicroPsy. Users group devoted to the application of microcomputers in the psychological fields. Meetings first Saturday of the month, noon. Call for information: Martin Schaaf, M.S., (415) 454-6761.

C Group of Northern California. Forming C programmer support group. Group's function will be to exchange information, discuss programming techniques and problems, etc. Anticipate monthly meetings at rotating locations. First meeting to be held 7:30 pm, Tuesday evening, November 4th, in Mill Valley. Call (415) 383-7006, or contact Ben T. Choate III, P.O. Box 1533, Mill Valley, CA 94942.

BADGE-Bay Area Developers Group. Meets third Thursday of every month, 7:30 pm, at Stanford University Building 200, Room 002. Contact Tom Rokicki or Bob Alverson, (415) 326-5312 for information.

California Genealogical Society Computer Interest Group. Meets second Saturday of the month, 300 Brannan St., 4th Floor, San Francisco. Call W.R. Shepard, (415) 989-5441 for information.

Pro*BUG—Professional Business Users' Group. Formerly Xerox Users Group. Meets 1095 Irvine Blvd., Tustin, 1st Saturday each month, 9 am. BBS (714) 543-3187, 300 baud, Xmodem protocol. CP/M, PC, MS-DOS. Contact Allen Ashley, (714) 537-4608.

USER GROUPS

APL

APLBUG (APL Bay Area Users' Group) has monthly meetings and a newsletter for people interested in APL (A Programming Language). It meets the third Monday of each month at 7:30 pm in the offices of I.P. Sharp Associates, 220 California Avenue, Palo Alto. Annual dues are $15. Contact Curtis Jones, (408) 292-4060, for information.

AT&T

Bay Area AT&T PC6300 Users' Group. Official group supported by AT&T. Meeting time and location vary. Contact Victor A. Borromeo, 764 St. Francis Blvd., Daly City, CA 94015. (415) 477-8124 days, (415) 991-4164 eves/weekends, or Maurice Aranda, (415) 972-5436 for information. BBS (415) 652-8277, 1200/2400, 8-N-1, 24 hours, 7 days.

ACTRIX

ACTRIX Computer Enthusiast Society. Membership ($20/yr) provides public domain software, group rates, discounts for owners of Actrix/Access Matrix microcomputers. Meetings at Sunnyvale Community Center, last Wednesday of the month, 7 pm. Contact K. Edward Lynch, 1405 Phelps Ave. #29, San Jose 95117, (408) 756-5104, for more information.

ADAM

Coleco Adam Users Group. For info send SASE to: CAUG, 2316 Stuart St., Berkeley, CA 94705. Voice (415) 549-3437, data (415) 549-3378.

South Bay ADAM Users' Group. Now forming a users' group exclusively for the ADAM enthusiast in the south bay area. Call Steve for more info at (408) 253-4190.

East Bay ADAM Group. Forming an ADAM users group in the East Bay area. Call Tom for more information — (415) 886-2884, or write 6097 Slopeview Ct., Castro Valley, CA 94552.

AMIGA

First Amiga User Group. We offer demonstrations of software and hardware, a public domain library, and general user help at our monthly meetings, which are held on the first Tuesday of each month in Belmont, CA. Meeting address 1300 Fifth Ave., Belmont, CA, 94070, 7 pm, first Tuesday of the month. Contact Tim Avery/Kayvan Pejooh, (415) 595-5452.

First Amiga User Group the South Bay. End-users, enthusiasts, developers and programmers all welcome. Meetings 2nd Fridays, library, 40 N. Milpitas Blvd., Milpitas, 7-9 pm. Contact Jim Thomas, P.O. 1863, Fremont, CA 94538, (415) 651-0201. BBS (415) 659-9169.

ACCESS. The Amiga and Commodore Computer EnthusiastS Society (ACCESS) holds its meetings on the 3rd Wednesday of the month in Room 107 of the Chabot Building in Hacienda Business Park, Pleasanton, CA. Contact Skip Perkins, (415) 443-4778 for information.

Sacramento Amiga Computer Club (SACC). Meets the second Wednesday of each month at the Sacramento Municipal Utility District (SMUD) auditorium, 6201 S. St. just off Hwy 50 at the 59th or 65th St. exit, 7 pm. For more information call George Leone, president, at (916) 944-7400 or write to SACC, P.O. Box 19784, Sacramento CA 95819-0784.

Amiga East Bay Info Exchange (AEBIE). P.O. Box 485, Pinole, CA 94564. For end users in the West County, North and/or East Bay area.

APPLE

San Francisco Apple Core Special Interest Groups, BBS, large public domain software collection, seminars, newsletter, group buys of hardware / software, help network. Meetings: (Apple) Daly City library, 3rd or 4th Saturday of each month, 40 Wembley near Gellert (Hickey exit), 10 am, call 433-7170 for carpool info. East Bay meeting, Concord library, 2618 Telegraph Ave, 1st Tuesday each month, 7 pm. Call 845-4810 for info. Mac Meetings: 3rd or 4th Saturday, Daly City Library, noon. Call 433-7170 for info; also Concord library, 3rd Saturday, 10 am, call 427-4821 for directions. Info: SF Apple Core, 1515 Sloat Blvd., Suite 2, San Francisco, CA 94132. (415) 566-2342 (voice), (415) 474-8608 (BBS/modem).

The AppleWorks Users Group. c/o TAWUG Regional Rep., 27421 Berenda Way, Hayward, CA 94544. (Society For The Prevention of Cruelty To Apples) Apple user/interest group. Features: Monthly meeting with newsletter, raffle and door prize of hard/software, demonstrations, lectures, discussions. $20 per year, pro-rated after June. Meetings last Wednesday of month, 7:30 pm. Contact Paul Meyerholtz for info (415) 490-8209.

Association of Apple 32 Users Macintosh, Lisa. An association of "knowledge workers" who wish to share information on products, applications, and events. User-developed, non-copyrighted software, SIGS, newsletter. P.O. Box 634, Santa Clara, CA 95052.

San Leandro Apple Eaters Users Group. Apple II users group meets the first Thursday of each month at San Leandro High School (room 213). New owners to experienced users welcome: Appleworks, education, hardware/software, telecommunications. Call Open Campus BBS area 11 (415-895-0135) or voice (415-782-9250) for more information.

Pen-Apple (Peninsula Apple Users Group) Meetings 2nd Thursday each month at 7:30 pm, Ampex Corporation cafeteria, 401 Broadway, Redwood City. Contact Bob Runyon, (415) 592-1167.

Diablo Valley Apple Users. Apple II family users and Macintosh users. Special Interest

Groups meet monthly. Featuring a library of public domain software collection and our own Club's DOM's, monthly newsletter, group buys of hardware and software as well as monthly demos of new products. Meetings held on 1st and 3rd Friday each month at 7 pm at the Willow Creek Center, 1026 Mohr Lane in Concord. Contact Merle Zmak, president, P.O. Box 5031 Concord, CA 94524, or call (415) 672-7596 for additional information.

South Peninsula Apple Computer Enthusiasts (c/o David Harris, P.O. Box 1257, Palo Alto, CA 94302) meets near the Varian Credit Union, Bldg. 4C, 611 Hansen Way, Palo Alto, at 7:30 pm on the first Tuesday of every month to exchange information about available hardware, software, events, publications, and methods on Apples, and to encourage collaboration on projects. Call (415) 856-9126 answering machine takes 30-second messages.

Roseville Apple Core. Discover your Apple's Core! We meet twice each month at the Roseville Public Library with additional SIG meetings for AppleWorks, BASIC and TelCom. We also feature a monthly bulletin, large public domain library, and new member's disk, all for just $12 yearly membership. C'mon out and bring a friend. Contact Dave Smart, P.O. Box 1377, Roseville. (916) 961-2249.

Apple Sac. (Sacramento) Meetings on first Wednesday and third Tuesday every month at Madison School, 5241 Harrison St. (corner Harrison and Madison Ave. 1/4 mile west of 180 on Madison Ave.), 7:30 pm. Contact Ray Beam, president, P.O. Box 254645, Sacramento, CA 95825, (916) 448-6115 for more information.

Stanislaus Apple Group. You're invited! Stanislaus Apple Group meets 2nd Tuesday each month, 7 pm, Room 124 Ag Bldg, Modesto JC, main campus. We support Apple II and compatibles, Apple III, Mac, Lisa. Newsletter, BBS (209-529-3202), extensive PD software library. More info call (209) 523-7289 (eves).

Santa Cruz Apple User's Group meets at Cabrillo College, Aptos, ILC building, 1:30 pm, second Sunday of the month. For information contact Tim Ruckle, president, (408) 462-3154.

Apple Gardens. New Apple II users group. Share info, programs, group purchases. Brand name disk, new products, software demos and evaluations. Call Tom Turley at (415) 468-4045.

Apple P.I.E. Meets at Lynbrook High School, Room 30, 1280 Johnson Ave., San Jose, 4th Thursdays, 7:30 pm. Contact George Ingalls, P.O. Box 2185, Santa Clara, CA 95055.

ATUNC-Apple Three Users of Northern California. Explanations, demos, large public domain library. Mailing address: 220 Redwood Highway 184, Mill Valley, CA 94941. On Apex and Draconet BBSs.

ASHTON-TATE

Framework/Editor Bay Area Users Group (FREDBUG) Purpose of the group is to share programming and applications techniques under FRAMEWORK for the business and technical professional. Call for info: Rudi Wiedemann, (408) 730-4159.

San Francisco dBase User Group For advanced users and programmers. Meets once per month. Membership required for attendance. Contact Frank A. De Coster, 1100 Gough St., San Francisco, CA 94109, (415) 474-6693.

East Bay dBASE Users Group. Meets 3rd Sunday, 1 pm. Call Darrell Bross (415)873-7522 or Alexandra Saur (415)893-7637 for meeting address.

dBase II/III SIG of SF PC Users Group meets third Monday of each month, 7-8 pm, Fort Mason, San Francisco. Contact Ron Freshman, (415) 459-6613.

DBDVLPRS (dBaseIII Program Developers). Call for information on meeting time and location: Gil Orlik, (415) 931-0377, 2240 Buchanan St., SF 94115.

Framework SIG of SF PC Users Group. Users of all levels, programmers, developers. Meetings at Fort Mason Center, San Francisco, 3rd Monday of each month. 7-8 pm. Contact Tom Reichert, (415) 391-4687.

Framework Users Group of San Francisco Bay Area. Meets at 2 pm on the Second Sunday of each month. Meeting location may vary for the convenience of members. For information call (415) 521-4643.

ATARI

ABACUS (Atari Bay Area Computer Users Society) All ATARI users or prospective users are welcome. Membership ($15/year) provides public domain software, low cost blank disks, monthly newsletter, group prices on hardware and software, help from experts, low cost classes for beginners. Meetings first Saturday of the month, Fort Mason, SF, Room 300, Bldg. C, 10 am-2 pm. Contact Bill Zinn, P.O. Box 1823, Mill Valley, CA 94941. (415) 753-8483.

A.C.M.E. (Atari Computer Marin Enthusiasts) Meets monthly in Marin, third Thursday evening monthly from 7 pm on. Gallinas School, 177 N. San Pedro Rd., San Rafael. Contact Bruce Frank, (415) 435-6020, P.O. Box 222, Tiburon, CA 94920.

Diablo Valley Atari Computer Enthusiasts (D.A.C.E.) Contact Mike Randis, 3602 Dumbarton St., Concord, CA 94519, (415) 798-6565.

Bay Area Atari Users Group We have a 24-hour 300/1200 baud BBS at (408) 249-7722. Meetings at Bracher School Cafeteria, corner of Bowers and Chromite, Santa Clara, CA, first Monday of the month. Contact Frank Nagle, P.O. Box 50459, Palo Alto, CA 94303, (415) 791-5461 for more info.

San Leandro Computer Club Although open to all computer users, this group is primarily oriented to Atari computer owners. Our club is considered one of the best in the country, worthy of consideration by both novices and experts. Meetings 1st Tuesday of the month at San Leandro Community Library, 300 Estudillo Ave., San Leandro, CA. Contact Phil Mitchell, P.O. Box 1525, San Leandro, CA 94577-0152 for more info, or call (415) 351-2208.

COAST User Group (California Original Atari ST). Public domain disks, MIDI, support, help for the Atari ST line of computers. Advice and programs not to miss. Meetings at Clorox Building, 1221 Broadway, Oakland, CA, 3rd Wednesday each month, 7-10 pm. EaST COAST meets 2nd Tuesday of the month at 1015 Esther Drive, Pleasant Hill, 7:30 pm. Members only. Dues $24.00 yr. Contact Chuck Thorp, president, 1015 Esther Drive, Pleasant Hill, CA 94523, (415) 945-1949 for information.

Redwood Atari Group (R.A.G.) Meets 4th Saturday, 1-4 pm, at Coddingtown Meeting Room, 1100-B Coddingtown Center, Santa Rosa. Contact Mikkel Lawrence, (707)585-3949, 21 Creekwood Sq., Rohnert Park 94928.

ATTACHE

Attache UNL Otrona may be dead, but the Attache Users News Letter Lives ON!! Contact Jim Ayers, 301 Poplar St., Mill Valley, CA 94941. (415) 388-4805. Meetings 7:30 pm, 2nd Wednesday.

First Attache User Group News. Support, news, and cooperation for users of Otrona Attache and 2001 portable computers. Since '82. Contact Charles Raisch, 1827 Haight St. Suite 16, San Francisco, Ca 94117, (415) 221-3415.

AUTOCAD

AutoCAD Users Group. Call Gen Katz (415) 530-8870 for information about future meetings.

AutoCAD User Group. Call Volker Ackermann, (415) 485-0958 for information.

BASIS

Bay BUG Basis 108 Users meet every first Friday of the month at College of Alameda Computer Room, 7:30 pm. Contact Roger Bernhardt, 536 Mission, San Francisco or call (415) 221-0262 for more information.

BONDWELL

Bondwell Users Unite! Trying to start group, need your help. All levels welcome. Meeting address 405 Stierlin Rd. #17, Mountain View. Time and date to be announced. Call Tom Gatlin at (415) 961-0450 for more information.

BPI

Bay Area BPI Users Group meets the fourth Tuesday of each month. For more information contact Mitch Paioff, 5097 Tisdale Way, San Jose, CA 95130, (408) 866-4310.

CANNON

Cannon AS 100. Anyone who owns a Cannon AS-100 computer and is interested in forming a group to share problems and solutions write HTF-4111 Hilltop, Vacaville, CA 95688.

CASIO

Casio Research Project. Discussion and collaboration; creation of plug-in expansion board using VLSI chip. Share programs. Meetings TBA. Contact Julius M. Zebrowski, (415) 969-9458.

COMMODORE

San Francisco Commodore Users Group Public domain library, classes, tech help, in depth demonstrations, monthly newsletters, Epromer, savings on purchases, all this and more. BBS (415) 626-6330, (415) 268-3769 300 baud. Meeting address Log Cabin, Storey Ave. at Ralston, 3rd Friday, 7:30 pm. Contact Malcolm Lowe, (415)832-1539.

20/64 Computer User Group San Jose Chapter meets the first Sunday of each month at Mercury Savings and Loan, 859 Blossom Hill Road (corner of Blossom Hill and Pearl), San Jose, from 6 to 9 pm. For further information call (408) 733-2637 or write to P.O. Box 18788, San Jose 95158.

20/64 Computer User Group San Jose North Valley Chapter meets the second Saturday of each month at the Milpitas Library, 40 North Milpitas Boulevard, Milpitas, from 10 am to noon. For further information call (408) 733-2637.

20/64 Computer User Group Cupertino Chapter meets the second Sunday of each month at the Cupertino Public Library, 10200 Torre Avenue, Cupertino, from 6 to 9 pm. For further information call (408) 733-2637.

20/64 Computer User Group Campbell Chapter meets the fourth Tuesday of each month at the Campbell Public Library, 70 North Central Avenue, Campbell, from 6:30 to 9:30 pm. For further information call (408) 733-2637.

Diablo Valley Commodore Users Group Meetings Contra Costa Water District Auditorium, 1331 Concord Ave., Concord, CA, second Thursday of month at 7:30 pm. Write DVCUG, P.O. Box 27155, Concord, CA 94527, or call (415) 838-2838 for more info.

Napa Valley Commodore Computer Club Meets first and third Mondays, 7:30 pm, at Northwood Elementary School, 2214 Berk St., Napa. Take Redwood Road to Dover St. to Berk St. Contact President Dick Bull (707) 257-3773 or vice-president Roger Pruym (707) 253-1690 for more info.

Lake County Commodore Users Group Contact Al Reuss, P.O. Box 388, Clearlake, CA 95422.

Marin Commodore Club Meets at Redwood High School, Corte Madera. Visitors welcome. Contact Elmer Johnson for information: 665 Las Colindas, San Rafael, (415) 479-0426.

Peninsula Commodore User Group Public domain library, demonstrations, user help, newsletter. Membership is $25

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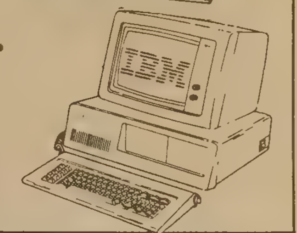

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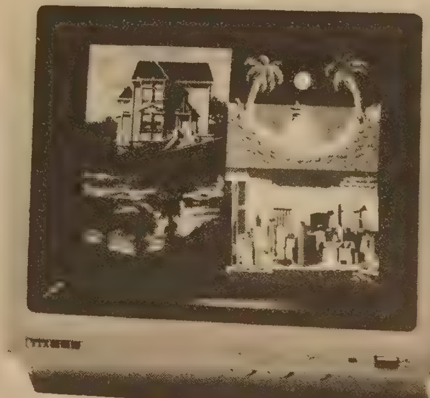

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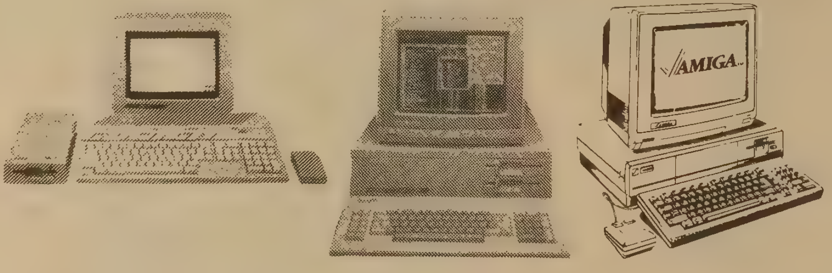

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The Commodore Connection. Newsletter, BBS, public domain disks, dealer support and more. Approved member of Commodore World. Call (415) 458-3318 8 am - 8 pm or 8 pm - 8 am for the BBS. Meetings 1st and 3rd Mondays, Neighborhood Center, Civic Ave., Pittsburg, CA, 7:30 pm.

Commodore User's Group of Hayward. The CUG of Hayward meets the first Saturday of each month from 3 to 5 pm at the Commodore Computer Center located at 22521 2nd St., Hayward. Call (415) 886-1916 evenings between 5 - 8 pm or (415) 537-1323 days between 10 am and 5 pm.

NBUG (North Bay Users Group). Contact Jim Stephens, president, 124 Delgado St., Vallejo, CA 94591, or write P.O. Box 7116, Vallejo, CA 94590.

Santa Rosa Commodore Users Group. Walter Saures, President, 333 East Robles Ave., Santa Rosa, CA 95407-7921. (707) 584-7009. Information line, (707) 526-6464 SRCUG-BBS.

Family Roots Searchers. Using Commodore SX-64 computer, Dynax DX-15, PractCalc II, Word Pro 3 Plus, Family Tree. Meetings by appointment only. Vera Ross, Atchison Village, Richmond, CA 94801-2942, (415) 235-8716.

PLUG (The Plus/4 Users' Group). Dedicated solely to support of the Commodore Plus/4. No regular meetings, 200 members in US, Canada, Mexico, and Europe. Newsletter, public domain software library. P.O. Box 1001, Monterey, CA 93942.

Silicon Valley Commodore Computer Club. Meets 4th Wednesdays, H.P., 5301 Stevens Creek Blvd. at Lawrence, 7 pm. Contact Roger Weiss, (408) 942-2442.

ACCESS. The Amiga and Commodore Computer EnthusiastS Society (ACCESS) holds its meetings on the 3rd Wednesday of the month in Room 107 of the Chabot Building in Hacienda Business Park, Pleasanton, CA. Contact Skip Perkins, (415) 443-4778 for information.

C.O.W. Commodore Owners Workshop. Meets at the San Bruno Rec Center (in San Bruno Park) the third Thursday of every month from 7-10 pm. Machines welcome. We have a huge PD library that users can check out. We usually have demos each meeting; we have BASIC programming classes and help each other along. For further information call the San Bruno Parks and Rec at (415) 588-1201.

Fairfield Commodore User Group. Meetings Solano County Education Bldg., 1st and 3rd Mondays. Contact Ben Harris, 1182 Dana Dr. Fairfield 94533, (707) 422-1669.

FUNHUG — Fremont, Union City, Newark, Hayward Users Group. For users of Commodore 64, 128, and Amiga computers. We have software/hardware reviews and demos, plus open discussion time. We have over 90 disks in our library. Bring $2 to help pay for the meeting place. Group meets every third Wednesday at 7:45 at 5445 Central Ave., Newark. For more info and a map send SASE to Russ Fisher, 36015 Pizarro Dr., Fremont, CA 94536.

COMPAQ

SF Compaq Users Group is now a SIG of the SF IBM PC Users Group. For information please call D. Blow at (415) 221-2764.

COMPUPRO

Bout Time, By God CompuPro user group forming in San Francisco. Call (415) 665-4733 or write to Barry Hermanson, 1509 5th Ave., San Francisco, CA 94122 for information.

CROMEMCO

Silicon Valley Cromemco Users Meets 3rd Tuesday of the month at MCM Enterprises. 215 Hamilton Avenue, Palo Alto, CA. Call Emily Ott at (415) 854-5818 for details.

DATAFLEX

Dataflex User Group. For more information call Alex at (415) 433-7944.

DYNABYTE

Dynabyte Announcing M.A.D., Mutual Assistance, Dynabyters (Dinosaurians?) For owners of this orphan Z80 S100 machine. Call Woody McPheeters, (415) 548-3126 or write 3128 King St., Berkeley, CA 94703.

EAGLE

Eagle Computer Users Group. P.O. Box 3381, Saratoga, CA 95070, (408) 972-1965. General meetings are held on the second Saturday of the month at Mercury Savings, 350 Showers Drive, Mountain View (San Antonio Center) from 9:30 am to noon.

Screaming Eagles User Group For 8 and 16 bit Eagles. Quarterly newsletter, public domain disk. On CompuServe (CLUB) Sec. 3. $10/year individual, $20/year business. 101 Parnassus #1, San Francisco, CA 94117. (Voice) (415) 661-4362.

Eagle Computer Users Group —ECUG. Meets 2nd Mondays, 7 pm, 6132—66th Ave. (Southgate Library), Sacramento. Contact W. Jud Boies, P.O. Box 163506, Sacramento, CA 95816, (916) 443-1060.

ENABLE

ENABLE Users' Group. Supporting users of Enable, the integrated software package. Monthly meetings in San Francisco (contact Evan Christensen, 415/469-1863) and Walnut Creek (contact Sandi Baker, 415/944-0426). "Enabling" is a bimonthly newsletter for all users of the software. Write for free sample: Enabling, 591 Redwood Highway, Suite 3210, Mill Valley, CA 94941.

EPSON

Bay Area Epson Salts 125 Del Centro, Millbrae, CA 94030, (415) 697-0567.

Epson Users of San Francisco Bay Area Epson group has nationally circulated newsletter Valnews: 400 members mostly QX-10 owners, growing software library. Meetings focus on mutual support. Mainly Valdocs and other applications. Meetings first Thursdays. 7 p.m. Fort Mason Center, Bldg. C, Room 205, San Francisco. Contact Alan Magary, 904 Irving St., Suite 271, San Francisco CA 94122, (415) 661-9270.

Napa Valley Epson Users Group 1307 Hestia Way, Napa, CA 94558, (707) 253-8727.

FORTH

FORTH Interest Group, Berkeley Chapter. Meets 2nd Saturday of the month at 1 pm, 10 Evans Hall, UC Berkeley. Contact Mike Perry, (415) 644-3421.

FORTH Interest Group, Monterey/Salinas Chapter. Contact Bud Devins, (408) 633-3253.

FORTH Interest Group, Sacramento Chapter. Meets 2nd Tuesday of the month, 7 pm, 170B 59th St., Room C. Contact Tom Ghormley (916) 444-7775.

FORTH Interest Group, Bay Area Chapter. Meets 4th Saturday of the month, 10 am advanced, 1 pm beginning, at ABC Christian School Auditorium, Dartmouth and San Carlos Ave., San Carlos (408) 277-0668.

FORTH Interest Group, Stockton chapter. Contact Doug Dillon (209) 931-2448.

GAVILAN

Gavilan User Group. Meets 2nd Thursday, 7 pm, Lockheed Bldg 162. Contact R.W. Brown, 780 Manx Ave., Campbell, CA, (408) 379-2774. Gavilan BBS (408) 374-3974, 300/1200, 24 hours, free.

HEATHKIT

San Jose Heathkit Users Group. Meets first Wednesday at 7 pm at the Heathkit store on South Bascom Ave. in Campbell.

B.A.H.U.G. Heath/Zenith computers, CP/M and MS-DOS. Meetings at 2001 Middlefield Rd., Redwood City, CA, 7 pm, 2nd Thursday. Contact John Lindquist, 642 Hollenbeck Ave. #1, Sunnyvale, CA 94087.

NBHZUG North Bay Heath/Zenith Users Group. Devoted to Heath/Zenith computers in specific and MS-DOS, CP/M computers in general. Beginners and advanced. Meeting place varies, time 2nd Saturday, noon. Contact Martin Schaaf, (415) 454-6761 for information.

HEWLETT-PACKARD

HP Portable People user group to be formed. Contact Michael Felsenstein, 2366 40th Ave., San Francisco, CA 94116, (415) 564-8279.

INTEREX is the International Association of Hewlett-Packard Computer Users, with affiliated users worldwide approaching 10,000. Acting as an information resource for users of HP computers (HP3000, 1000, 900 and Series 100), INTEREX maintains libraries of user contributed software. The software is available through the CSL membership categories. INTEREX has three publications, one or two. for each of the categories. Phone (408) 738-4848 or write User Services Department, 680 Almanor Ave., Sunnyvale, CA 94086.

IBM

South County PC Users Group Meetings held second Thursday of each month, at Software Center, 22406 Foothill Blvd., Hayward, CA. Public Domain club disks, newsletter and help on MS-DOS problems. Contact Debra Taylor, P.O. Box 7656, Fremont CA 94537-7656 for more info, or call (415) 276-5111.

Silicon Valley Computer Society. New users SIG, 7:30 pm, 2nd Wednesday; call Dick Meyer, (408) 723-0159. dBASE III SIG, 7:30 pm, 4th Thursday; call Thaine and Barbara Anderson, (415) 345-0152. WordPerfect SIG 7:30 pm, date variable; call Martin Van Derpool, (408) 238-8434. Software tools and graphics SIG, 7:30 pm, 4th Tuesdays; call Hal Sampson, (408) 866-7833. Artificial Intelligence SIG, 7:30 pm, 2nd Thursdays; call Kent Byron, (415) 656-0410. Telecom SIG, 7:30 pm, 1st Monday; call Scott Sawicki, (408) 243-8781. Lotus 1-2-3/Symphony SIG, 7:30 pm, 3rd Thursday; call Bill Welch, (408) 247-3405. C programming SIG, 7 pm, 3rd Tuesday; call Fletcher Johnson, (408) 946-0960.

California PC LAN Users Group, 1625 The Alameda, Suite 511, San Jose, CA 95126. (408) 289-1711.

Diablo Valley PC. An IBM PC User Group, monthly meetings, newsletter and public domain software library. Contact Jim McDonnel, president, 2261 North Main St. 117, Walnut Creek, CA 94596, (415) 933-1270.

The Bay Area Computer Society Emphasis on IBM PCs, networking and multi-user systems. P.O. Box 20583, Oakland, CA 94604, (415) 839-5786.

IBM PC Users Group of the Redwoods. Anyone interested in PCs and/or compatibles is welcome. Meetings at Yulupa School, 2250 Mesquite Dr., Santa Rosa, CA, 4th Thursday of the month, 7 pm. Contact Michael Adams, P.O. Box 5055, Santa Rosa, CA 95402, (707) 664-8320, (707) 546-3619.

Sacramento PC Users Group. Over 1000 members. Meetings at Holiday Inn Holidome, 5321 Date Ave., 7 pm, 3rd Wednesday. Contact Barney McCauley, P.O. Box 685, Citrus Heights, CA 95610, (916) 484-1048, or call the club number (916) 332-1944.

SF PC jr User Group meets monthly. Lectures and discussions on the usage of IBM PC jr software and hardware. Software and books library. For more information please send SASE to 2336 Market St., Suite 20, San Francisco, CA 94114. Meetings at 1550 Bay St., SF, every first Sunday at 7:30 pm.

San Francisco PC Users Group. Largest SF group focusing on IBM and compatibles. Over 150 disks of public domain software, excellent monthly newsletter. 800+ members, $30 yr. Write 3145 Geary Box 155, San Francisco, CA 94118. Meetings 8 pm, 3rd Mondays, Bldg A Fort Mason.

Monterey Bay PCjr Users Group. Meets at Legacy Computers, 431 Tyler, Monterey, CA 93940. Usually meets second Thursday of the month. Contact Lloyd Reece, (408) 899-5795. Mail to Box 1191, Seaside, CA 93955.

Valley PC Users Group. Individuals and corporate users of the IBM PC and compatibles; guest speakers from major vendors, public domain software, exchange problems and solutions. BBS 24 hours (209) 952-5021. Meeting address 731 Brookside Road, UOP School of Pharmacy, Rotunda Bldg., Stockton, 7 pm, 1st Tuesday. Contact Francis Pillow, P.O. Box 77748, Stockton, CA 95207, (209) 478-9697.

FUNHUG PC—Fremont, Union City, Newark, Hayward User Group. For recreational/home users of IBM PC and compatibles. We meet on the third Wednesday of each month at 5445 Central Ave., Suite 1, Newark, at 7:45 pm. We have software/hardware reviews and visits from manufacturers. Our library contains over 250 disks of public domain software. Bring $2 to help pay for meeting place. For more info send SASE to Russ Fisher, 36015 Pizarro Dr., Fremont, CA 94536.

Marin-Sonoma PC Users Group. Meets last Tuesday of the month, 7:30 pm, in the Whistlestop building, 930 Tamalpais St., San Rafael, CA. Park in Savings and Loan parking lot across the street. Classes, SIGs, 24 hour BBS at 415/927-1216. Emphasis on business applications and solutions. For additional information contact John Hawkins (415) 525-8500, P.O. Box 6476, San Rafael, CA 94903.

PC Desktop Publishing User Group. 431 Ashbury St., SF, CA 94117. Meets every Tuesday, 401 Alabama #101 (cross street 17th St.), SF, 7pm. Call (415) 552-8648, BBS (415) 552-9070.

Santa Cruz Computer Society. An IBM PC and compatible for beginning to advanced users, programmers and decision makers. Meetings 3rd Thursday, 7 pm, 1555 Soquel Dr., Santa Cruz (Dominican Education Center). Call Daniel Payne, (408) 476-0203.

San Francisco Computer Society, a CP/M and MS-DOS user group, meets on the fourth Tuesday of each month at St. Aidan's Episcopal Church, Diamond Heights Blvd. and Goldmine Drive in San Francisco, 7 pm. Membership is free, meetings are free and open to members and non-members. Member of FOG. For more information call Ralph Gallagher at (415) 929-0252 or Mark Simpson at (415) 479-6290.

IBM Compatible User Group of Silicon Valley. Meets monthly to share information about IBM compatible or clone computers. BBS (408)287-8326, 300/1200, 5:30 pm-7:30 am M-F, 24 hours weekends. Call (408) 287-8325 for information, or write to 1515 The Alameda, Suite 303, San Jose, CA 95126.

CP/MUSC, A FOG affiliate, membership open to all persons interested in MS-DOS or CP/M computers. Meetings the second Tuesday of each month. Wheelchair access. Guest speakers, demonstrations, MS-DOS and CP/M software libraries. Info: P.O. Box 628, Ben Lomond, CA 95005, (408) 338-6365, (408) 476-0504.

KAYPRO

BAKUP (Bay Area Kaypro Users and Programmers). One of largest Kaypro user groups in country. Meet 3rd Tuesday of month, 7:30 pm. We support our RBBS/RCPM for members, publish a monthly newsletter, have a 40 volume software library, and a lot of fellow KP'ers! Write for info, $10 per year to join: Membership Coordinator, P.O. Box 20181, Oakland, CA 94620.

KAYFUN Peninsula Kaypro Users Group meets second Thursday of every month at 7:30 pm in the ground floor social room, 222 Laurel St., San Carlos. Bimonthly newsletter, public domain software library, and publication library. Membership $12 per year. Every third meeting a Free Forum night dedicated to individual help. Contact Larry Welling, 222 Laurel St. #310, San Carlos, CA 94070, (415) 593-9981.

South Bay Kaypro Users Group (SBKUG). Meetings at 10400 Torre Ave., Cupertino. We have an extensive library of public domain software, including over 200 diskettes of the SIG/M library. The floor is open for questions at each meeting, and we welcome new members at all levels of ability. Bring your machine, or at least your diskettes. For meeting night call Chuck Hansen at (408) 257-5244, or write P.O. Box 390088, Mountain View, CA 94039-0088.

HAYPROS. Kaypro User's Group - informal format, dealer supported. Meets at Computer Insights, 40957 Grimmer Blvd., Fremont, CA 94538, 1st Tuesday each month. Contact Ted de Castro, 18841 Vineyard Rd., Castro Valley, CA, (415) 581-8882.

CP/MUSC, A FOG affiliate, membership open to all persons interested in MS-DOS or CP/M computers. Meetings the second Tuesday of each month. Wheelchair access. Guest speakers, demonstrations, MS-DOS and CP/M software libraries. Info: P.O. Box 628, Ben Lomond, CA 95005, (408) 338-6365, (408) 476-0504.

San Francisco Computer Society, a CP/M and MS-DOS user group, meets on the fourth Tuesday of each month at St. Aidan's Episcopal Church, Diamond Heights Blvd. and Goldmine Drive in San Francisco, 7 pm. Membership is free, meetings are free and open to members and non-members. Member of FOG. For more information call Ralph Gallagher at (415) 929-0252 or Mark Simpson at (415) 479-6290.

Silicon Valley FOG. Supporting all types of CP/M micros. Two meetings monthly, one at the Campbell Public Library, 70 North Central Ave., Campbell, and the other at the Saratoga Community Library, 13650 Saratoga Ave., on the southeast corner of Saratoga and Fruitvale Avenues, Saratoga. Call (408) 371-8699 for further information.

LEADING EDGE

Bay Area Leading Edge User Group. Interested in starting a Leading Edge User Group? Write to Jim Williams, 26765 Calaroga Ave., Hayward, CA 94545.

MACINTOSH

EBMUG (East Bay Macintosh User's Group) Friendly, informal. Public domain software and computer book library. Information exchange. Speakers. Product discounts. Free admission. Meets at West Berkeley Public Library, 1125 University Ave., Berkeley, CA, third Tuesday of each month at 7:30 pm. Contact Shep Tamler, (415) 621-8808. Mailing address P.O. Box 7816, Berkeley, CA 94707-0816.

Bay Area MacForum New and experienced Macintosh users. 2 monthly meetings: one immediately following San Francisco Apple Core meeting at Religious Activities Center, Bldg. 689, in the Presidio, San Francisco, 3rd Saturday of the month; one at Software Center, The Willows Shopping Center in Concord, second Monday of the month, 7 pm - 9 pm. For info: 1515 Sloat Blvd. #2, San Francisco, CA 94132, (415) 566-2342.

Berkeley Macintosh User Group (BMUG). 1442A Walnut St., #153, Berkeley, CA 94709. Free meetings on campus (UCB). General meetings: every Thursday 6 pm, Physical Sciences Lecture Hall. Beginners: 6 pm Tuesdays, 230 Wheeler. Developers: 6 pm Wednesdays, 30 Wheeler. Call the office for this week's topic. Reese Jones, (415) 849-9114. BBS (415) 849-BMUG.

MacNexus. Sacramento's Macintosh User Group. 150 members, but still informal. Extensive public domain collection. Contact Gail McGovern, P.O. Box 163058, Sacramento, CA 95816, (916) 446-2411. Meetings 3rd Thursdays, 6:30 pm, Almond Plaza, 17th & C, Sacramento.

MacProgram Unlimited. Meets monthly. Informal with hands-on testing of different programs. Public domain and standard programs in rental library. Meets Albany YWCA, Kains and Solano, Saturday 9:30 am. Contact William Gong, P.O. Box 7704, Berkeley, CA 94707. (415) 527-1756.

Stanford Macintosh Users Group (SMUG) meets on the first Monday of the month at 7 pm in Kresge Auditorium, Stanford Campus. Meetings include speakers, discussions, answers and sale of library disks and other SMUG items. The Excel, Novice, Developer's, Japanese Word Processing Groups each meet twice monthly. SMUG publishes a newsletter and runs a BBS. Call the SMUG hotline at (415) 723-SMUK for a listing of current events. Stanford Macintosh Users Group, P.O. Box 2354, Stanford, CA 94305-0135.

Club Mac of Monterey. Macintosh User Group of Monterey Bay Area. Membership with monthly newsletter $25. Meetings 7 pm, last Wednesday of the month, Santa Catalina School, Monterey. Contact Richard Ware, P.O. Box 222988, Carmel, CA 93922.

Macs Of Marin. Macintosh users of Marin County. Emphasis on education of Mac users. Meetings: Room 104, Science Building, College of Marin, 2nd Thursday of each month, 7:30 pm. Contact Steve Salzman, (415) 459-5707.

maCruzers, a Macintosh user's group, meets every second Wednesday of the month at Louden Nelson Recreation Center in Santa Cruz, 7 pm. For information call (408) 459-1644, or leave mail on The WELL (415-332-6106) for Paul Foraker [sforaker]. Wood Ring BBS (408) 423-7205, 18 hrs/day, several megs of shareware/pd utilities and games; making the effort to have the latest version of important DAs and utilities.

Association of Apple 32 Users. Meetings at GTE in Mountain View, 2nd Saturday of the month. Contact Ken Silverman, P.O. Box 634, Santa Clara, CA 95052, (408) 263-0398.

MICROMATE

East Bay Micro-Mate Users' Group. CP/M (3.0) public domain software available. Meetings at 757 Longridge Rd., Oakland, 1st Thursday of each month. Contact Ed Miler, P.O.B. 402, Moraga, CA, 94556, or call (415) 376-1611 for info.

MIDI

MIDI Applications Group. Meets first Saturdays of the month. Contact John Komlenic, 1411 10th Ave., Oakland, CA 94606, (415) 465-6216.

MINDSET

First Mindset Users Group Monthly meetings and newsletters cover advanced topics in computer graphics, animation, and video production using the Mindset Personal Computer and accessories. Meetings at various Bay Area locations, 3rd Monday of the month, 7 p.m. Contact Tim Negris, 138 Village Ct. #6, Walnut Creek, CA 94596, or call (415) 934-1448.

MORROW

BAMDUA (Bay Area Micro Decision Users Association). Meets on last Tuesday of the month, 7:30 pm. Call (415)

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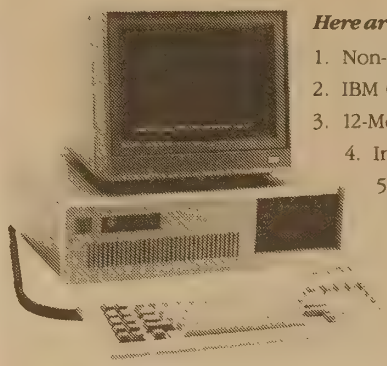

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SMUG (Stanford Morrow Users Group). Meets 2nd Wednesday of each month at 7 pm on Stanford Campus, Shultz Auditorium, Health Research and Policy building, Campus and Lomita Drive. Other CP/M users welcome. For further information call Ross E. Voyles, (408) 243-1455.

CP/MUSC, A FOG affiliate, membership open to all persons interested in MS-DOS or CP/M computers. Meetings the second Tuesday of each month. Wheelchair access. Guest speakers, demonstrations, MS-DOS and CP/M software libraries. Info: P.O. Box 628, Ben Lomond, CA 95005, (408) 338-6365, (408) 476-0504.

PETMUG — Petaluma Morrow Users Group. Meets Westamerica Bank, Washington Square, Petaluma, 7:30 pm, 4th Thursday of the month. Contact Frank Nance, president, 293 Circulo Puebla, Rohnert Park, CA, (707) 585-2980.

San Francisco Computer Society, a CP/M and MS-DOS user group, meets on the fourth Tuesday of each month at St. Aidan's Episcopal Church, Diamond Heights Blvd. and Goldmine Drive in San Francisco, 7 pm. Membership is free, meetings are free and open to members and non-members. Member of FOG. For more information call Ralph Gallagher at (415) 929-0252 or Mark Simpson at (415) 479-6290.

Silicon Valley FOG. Supporting all types of CP/M micros. Two meetings monthly, one at the Campbell Public Library, 70 North Central Ave., Campbell, and the other at the Saratoga Community Library, 13650 Saratoga Ave., on the southeast corner of Saratoga and Fruitvale Avenues, Saratoga. Call (408) 371-8699 for further information.

NORTHSTAR

INSUA Largest North Star users group in the world. Members' newsletter and software library. Membership dues $20. Contact George Riddle, P.O. Box 2910, Fairfield, CA 94533.

OSBORNE

East Bay FOG (First Osborne Group) Osborne, Kaypro and Morrow. Meets second Wednesday of the month at B&B Electric, 2832 Ford Street, Oakland. 6 pm workshops, 7:30 pm program. For info contact 5497 Taft Ave., Oakland, CA 94518; phone (415) 272-9099.

SMOG3 Osborne User Group (Peninsula) Meets first and second Monday of every month at Crane Place, 1331 Crane, Menlo Park. Call Phil Moore at (415) 325-2442.

MTDOG (Mt. Diablo Chapter-First Osborne Group) Meetings 7 pm, 3rd Wednesday each month in Diablo Room (top floor), SF Federal Savings and Loan, 1660 Olympic Blvd. (cross-street: California), Walnut Creek. Software library, software / hardware / service demonstrations, sharing problems and solutions. For meeting info contact Larry Sydes, (415) 933-2665.

North Bay First Osborne Group. Meets first Thursday of the month at 7:30 pm, Valley Oaks Apts. Rec. Hall, 2600 Northcoast St., Santa Rosa, CA (off West Steele Lane). Call (707) 546-0145 for more information.

CP/MUSC, A FOG affiliate, membership open to all persons interested in MS-DOS or CP/M computers. Meetings the second Tuesday of each month. Wheelchair access. Guest speakers, demonstrations, MS-DOS and CP/M software libraries. Info: P.O. Box 628, Ben Lomond, CA 95005, (408) 338-6365, (408) 476-0504.

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Silicon Valley FOG. Supporting all types of CP/M micros. Two meetings monthly, one at the Campbell Public Library, 70 North Central Ave., Campbell, and the other at the Saratoga Community Library, 13650 Saratoga Ave., on the southeast corner of Saratoga and Fruitvale Avenues, Saratoga. Call (408) 371-8699 for further information.

NEC

Bay Area NEC/100 Users. For NEC 8201A and TRS-80 Model 100. Meets College of Alameda, 1st and 3rd Thursdays, 7:30 pm. Contact Rachel Holmen, c/o Truly Portable, Box 2916, Oakland, CA 94609, (415) 658-1889. Call for room number, which changes occasionally.

PAPERBACK SOFTWARE

V-P Planner Special Interest Group. Meets 2830 Ninth St., Berkeley, CA, every third Thursday, 7:30 pm. Contact Lloyd W. Bracewell, 6200 Harwood Ave., Oakland, CA 94618, (415) 547-8205.

PICK

Northern California Pick Users. NCPU mails a monthly newsletter, meets on the third Tuesday of the month for a dinner meeting with Pick related program, holds Pick educational courses, and has many other member benefits. P.O. Box 884474, San Francisco, CA 94188-4474, (415) 284-4063.

PIED PIPER

Pied Piper Users Group Owners of Pied Piper CP/M based computer are invited to call or attend the PPUG. Meets last Tuesday of the month at 7:30 pm. Please call (415) 638-1146. Meeting address: 10950 Elvessa St., Oakland 94605.

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NEXT ISSUE

In our April cover story, Adam Osborne of Paperback Software discusses his company's formula for success, along with current controversies in the software industry, from "look and feel" to copy protection.

We'll also offer a preview of this year's West Coast Computer Faire which brings exhibits, lectures and seminars of interest to the whole microcomputer community to San Francisco's Moscone Center March 26-29.

In other stories, Ed Kahn examines the new version of *WordStar* and Woody Liswood heaps praise on *Freelance Plus* from Lotus.

For all this, plus our regular columns and reviews, check out the April issue of *MicroTimes* available March 20.

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R2E

North Bay R2E Forming user group for R2E System microcomputer users. Please call (415) 235-1598 for information.

RADIO SHACK TRS

TRS-80 Computer Society of Diablo Valley The purpose of this group is the sharing of information, problem solving, support group, purchasing discounts, support for professional, business and educational users of Radio Shack computers. Out-of-area members welcome. Meetings second Tuesdays of the month, Willow Creek Center, 1026 Mohr Lane, Concord, 7:30-9:30 pm. Doors open at 7. Contact Roy or Sue Copeland, P.O. Box 23438, Pleasant Hill, CA 94523, (415) 372-7003.

TRS Nybblers. MS-DOS and Tandy. Newsletter, help and education, access to all popular public libraries (PC-SIG, CompuSoft, Public Brand. Instruction and problem solving. Meetings: MS-DOS — 25555 Hesperian Blvd., Hayward, Chabot College, 8 pm 3rd Friday, Room 1564; Tandy 2nd Friday, 8 pm, Room 600). Contact B.B. Jarvis, 1975 Paseo Del Cajon, Pleasanton, CA 94566. (415) 846-3575.

Bay Area Chapter of the California Computer Federation, a user group for Color Computer users formed by The Redwood Color Board. Write the R.C.B., P.O. Box 7007, Redwood City, CA 94063 for details.

South Bay TRS 80 Users Group (SBUG). For info write P.O. Box 60116, Sunnyvale, CA 94088 or call Don Rhodes at (408) 996-1008. BBS: (408) 253-6293. Meetings, Cupertino library, 3rd Tues., 7:15 pm.

San Mateo TRS-80 Users Group. Meets 4th Thursday of the month at Cal Fed S&L, 2600 Ocean Ave., SF., 7:30 pm. BBS (415) 574-7684, 300/1200, 8-N-1 settings. Contact Julian Kaufman, (415) 992-1783.

Bay Area NEC/100 Users. For NEC 8201A and TRS-80 Model 100. Meets College of Alameda, 1st and 3rd Thursdays, 7:30 pm. Contact Rachel Holmen, c/o Truly Portable, Box 2916, Oakland, CA 94609, (415) 658-1889. Call for room number, which changes occasionally.

Byte Bandits of America. Meets 2nd Saturdays 1 pm, 4th Wednesday 7 pm, 780 Manx Ave., Campbell, CA. Call Robert W. Brown, (408) 379-2774 for information. BBS: 300/1200. 24 hrs., free, (408) 374-3974.

Club 100. A Model 100 users Group. Dedicated to Model 100, 103, 200, NEC 8201A and Olivetti M10 users. Contact Richard Hanson, club secretary, P.O. Box 23438, Pleasant Hill, CA 94523, or call our club BBS at (415) 939-1246. We are a very active, on-line club with many helpful members, and a large Model 100 public domain library available to members.

REALWORLD

Bay Area REALWORLD Users Group meets the third Tuesday of each month. For more information contact Mitch Paioff, 5097 Tisdale Way, San Jose, CA 95130, (408) 866-4310.

ROYAL

Royal Alphatronic, San Francisco. New group forming. Call Tom Rutkowski at (415) 863-4794 for information or write P.O. Box 421161, San Francisco, CA 94142.

S-100

S-100 Bus Users Group. Meets fourth Tuesdays, 7:30 pm, Community Room, El Paseo de Saratoga, San Jose. Contact Dick Delp, Box 10404, San Jose, CA 95157, (408) 245-2137. CP/M-80, S-100 emphasis. CP/M and MS-DOS libraries.

SANYO

Sanyo MBC 1100-1150 user group now forming in Oakland. Call or write (415) 534-1981, 5885 Bancroft Ave., Oakland 94605 for meeting time and location.

Sanyo National Users Group. SNUG is a central resource for Sanyo information and public domain. Inquiries welcome! Contact John Egan, 101 Irving Ct., Pleasant Hill, (415) 827-3023.

Santa Clara Sanyo Users Group. SCSUG's 24 hour BBS (415) 659-9169. Support for MBC-55X Systems. Meetings at 1 West Campbell Ave., Campbell, 7-10 pm every 3rd Wednesday of the month. Contact Jim Thomas, (415) 651-0201 for info.

Sanyo PC Compatible Club. SPCCC supports Sanyo 16 bit machines and similar PC clones. We publish the Sanyo PC Hackers Newsletter (International), subscription rate $20/yr., and maintain a public domain software library. Meeting at the Mercury Room of Mercury Savings & Loan, 99 El Camino Real, Menlo Park, CA, 7-9 pm the first Wednesday of the month. Contact Victor R. Frank, 12450 Skyline Blvd., Woodside, CA 94602, (415) 851-7031.

SOUTHERN PACIFIC

ICOLATUG. User group for owners of Southern Pacific Ltd's Mountainside ICO and LAT single board computers. Exchange tips and programs. Contact Andrew P. Porter, 774 Joyce St., Livermore, CA 94550.

TEXAS INSTRUMENTS

San Francisco 99ers One General Meeting per month plus uncountable mini-meetings for training. Over 500 programs available in library. Meetings 12 noon, third Saturday of the month, 3751 Elston Way, Oakland. Contact Gary L. Anderson, 24816 Mango St., Hayward, CA 94545, (415) 786-1776.

South Bay T.I. User Group. One general meeting per month. We have training session, library and own bulletin board (408) 578-6264. Meets first Thursday of each month at 7:00 pm, Cupertino Library, 10400 Torre Ave., Cupertino, (between DeAnza Blvd. and Rodriques Ave.) starting at 7 pm in the basement conference room. Call v.p. Keith Felix, (408) 258-6678.

Nor-Cal TI 99/4A Users Group. Learn more about your Texas Instruments 99/4A computer. Free software, sources of hardware and software. Contact Dave Steady, 324 Howard St., Petaluma 94952, (707) 762-6561. Meetings at Retail Clerks' Union Hall, 382 Tesconi Ct., Santa Rosa, CA, first Wednesday of the month at 7 pm.

Santa Clara Valley TI Pro User Group. Meetings 7 pm, 4th Thursdays, location varies. Contact Tom Schoen, PO Box 871, Newark, CA 94560, (415) 793-6670.

THEOS OASIS

Theos/Oasis Users Bay Area Group. Greater SF Bay Area users of THEOS and OASIS multi-user operating systems meet quarterly to focus on "hot" issues and share info. Contact Joe Trimble, 236 Frisbie St., Oakland, CA 94611, (415) 839-3281.

TIMEX SINCLAIR

East Bay Timex/Sinclair User Group (EBZUG) Timex/Sinclair user group. S/W library and newsletter. Meets at West Branch of Berkeley Public Library at corner of University and San Pablo. Usually meets 4th Thursday of the month at 7:30 pm. CALL FIRST. Contact Russ English, 415/465-3116 or write to Woody McPheeters at 3120 King St., Berkeley, CA 94703.

Peninsula Timex/Sinclair User Group (PUG) Timex/Sinclair user group. S/W library and newsletter. Meets at Peninsula Hospital, 1783 El Camino, Burlingame. Meets 3rd Sunday of the month at 1 pm. Contact George Mockridge, 311 Michelle Lane, Daly City, CA 94015, (415) 878-1773

Silicon Valley Timex/Sinclair User Group (SVTSUG) Timex/Sinclair user group: 6675 Clifford Drive, Cupertino, CA 95014-4530. Bill Miller (408) 253-3175. SW library and newsletter. Meets at Cupertino Library, 10400 Torre Ave., Cupertino, CA, last Tuesday of the month.

UNIX

The Unix C-Club Seminars, public domain softwares, information exchange, Unix hardwares and softwares. Discount on purchases. Meets 2nd Saturday of each month at 10 am. Call Gilbert B. Dalit at (415) 348-6723 or (408) 238-5587 for more information, or write: 122 2nd Ave., Suite 214, San Mateo, CA 94401.

VECTOR

Bay Area Vector Group Meeting held regularly. Please call to be put on mailing list. You will be informed of next meeting! Contact Peter Tjeerdsma, 764 Cole St. #4, San Francisco, CA 94117. Phone (415) 681-0308.

VICTOR

Victor* Group is the San Francisco Bay Area Victor User's Group. We have three chapters East Bay, South Bay, and San Francisco. Members can attend meetings at any of the chapters or all of them. The more the merrier. Dues are $30 a year, which includes a subscription to VictorTalk, membership in a Victor-exclusive discount buying cooperative, and the right to buy from our public domain library at a discount. South Bay meetings are held the first Thursday of each month at Computer Insights, 40957 Grimmer Blvd., Fremont at 7:30 pm. Contact John Kimber (415) 797-6423. East Bay meetings are held the second Wednesday of the month at 7:30 pm; contact Boardman Moore (415) 283-3285 for location and further info. San Francisco meetings are held the third Sunday of the month at 5 pm at Homestead Savings, 130 West Portal, San Francisco. Contact Joe Zmuda, (415) 584-4048.

VTC-1050

VTC-1050 User's Group. Establishing a VTC-1050 User's group and newsletter. Interested parties please call or write Ken Phillips, 4349 Blackford Ave. #1, San Jose, CA 95129, (408) 973-1353.

WORD PERFECT

Word Perfect of Santa Cruz. Now a SIG of Santa Cruz Computer Society. Telephone network, meetings occasionally as needed. 2120-87 N. Pacific, Santa Cruz, CA 95960-2743. Contact Sylvia Caras, (408) 426-7636.

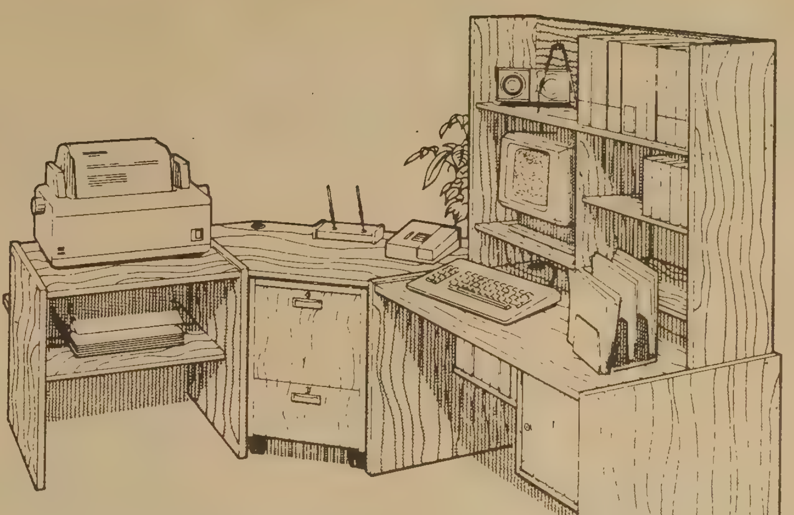
South Bay Word Perfect User Group. Call Martin Van Derpool, (408)238-8434 for information.

ZENITH

Zenith User Group of San Francisco. Zenith users are forming a user group and bulletin board for Zenith computers. Hands on demonstrations will be provided on the full line of Zenith hardware. Meetings at 1325 Howard St., SF, CA. Contact Stan Kelley, 415-861-3068.

B.A.H.U.G. Heath/Zenith computers, CP/M, MS-DOS (300/1200 baud BBS 415-365-7836). Meetings 2001 Middlefield Rd., Redwood City, CA, 7 pm second Thursday. Contact John Lindquist, 642 Hollenbeck Ave., #1, Sunnyvale, CA 94087.

NBHZUG North Bay Heath/Zenith Users Group. Devoted to Heath/Zenith computers in specific and MS-DOS, CP/M computers in general. Beginners and advanced. Meeting place varies, time 2nd Saturday, noon. Contact Martin Schaaf, (415) 454-6761 for information.



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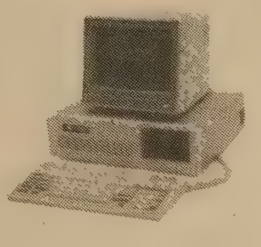

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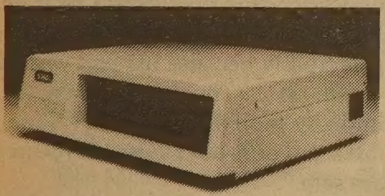

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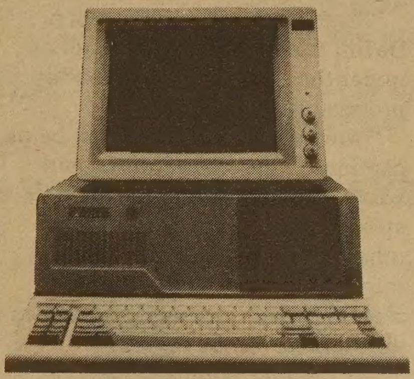

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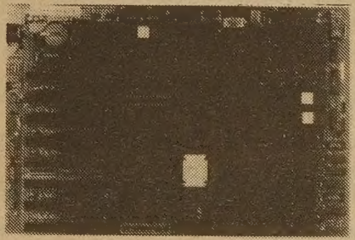

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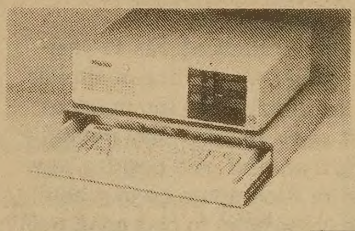

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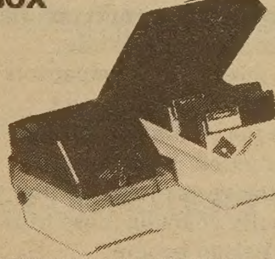

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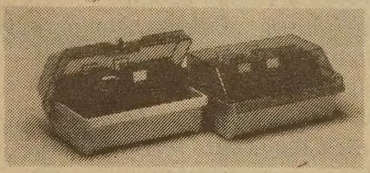

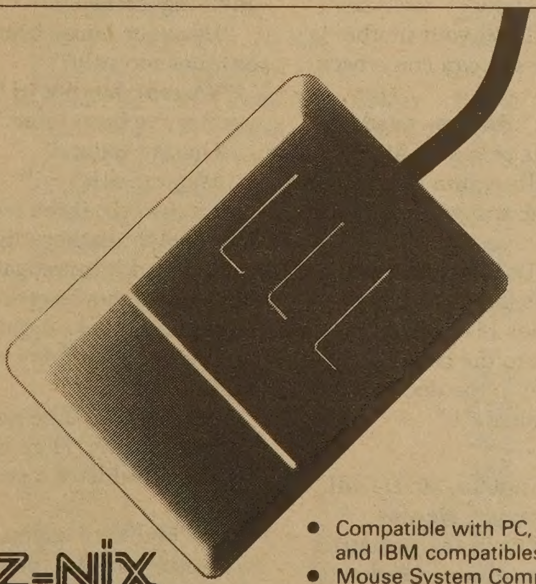

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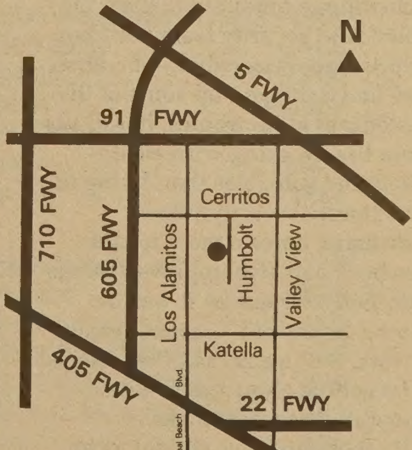

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A continuing fictional story

CUPERTINO

of the computer industry and the people within it.

By Steve Rosenthal

At first, Oliver DeToll thought the stomach upsets were just one of those bugs going around. And with the hours he'd been keeping at Mutronics, working to get the new flat display ready, maybe he was just tired.

Even when Richard, his 11-year-old, starting complaining of similar pains, he didn't make too much of it—if it was a flu bug, they might be passing it around, and besides, any excuse for Rich not to go to school these days seemed to be a good one. Rich said there were a lot of kids out with the bug.

Still, it didn't seem all that serious, and certainly not worth putting off the trip to Montvale. While DeToll, like most of his compatriots at small computer development firms across the country had feared as well as admired the computer giant for many years, he found that he was actually enjoying those trips to see their liaison people.

From his point of view, the project certainly seemed to be going well. Since signing on as an IBM developer, they were getting regular salaries, they could buy supplies, and they were learning quite a bit about engineering a product for high-volume production. Even the fabled IBM security team had been surprisingly reasonable—of course, they had tightened up some of the procedures at Mutronics, but it was more like working with easily-misplaced valuables than living in a maximum security prison.

Bringing home a more regular paycheck had also improved things with Betty. Or maybe it was the shorter hours and lessened tension at work. But in any case, they seemed to be getting along much more smoothly in recent weeks.

He thought about all that as he moved from room to room, gathering up what he needed for the trip and packing it into the garment bag-style carry-on. The airlines, he knew, had practically abandoned checking compliance with either weight or size limits for this type of baggage, so if you could stuff it in and carry it on, you didn't have to worry.

His plane left at one, and with Rich home sick, he figured he'd stay home and pack and go directly to the airport, instead of going to the office first. If Rich didn't seem better by noon, he'd call Betty, and she'd come home early. They figured Rich would be okay for a few hours in the afternoon.

But, DeToll noticed, his son didn't look at all like he was getting better. In fact, he seemed noticeably weaker, almost listless. But wasn't this normal for the flu? He'd spent so little time with Rich in the past two years, he didn't even know.

"Rich, how're you feeling?" DeToll asked, trying to keep any worry out of his voice.

". . . uh, dizzy, just dizzy, and it hurts, Dad . . ."

"That's okay, son, it'll get better soon. It's just a bug."

"You're not going to go, are you, Dad?"

"Well, I don't know . . . we'll see how you feel. I'll call your mother and see whether she can come back early."

"It hurts a lot," Rich repeated, curling up on his side as if his stomach was pulling him into a knot. He was beginning to whimper softly.

"Rich, Rich," DeToll said softly, stroking his son's forehead. Then, suddenly, he shook his head sharply, and turned back to the bed. "We're going to take you to the doctor. . .I'm not going away after all."

* * *

"It's definitely not flu, Mr. DeToll," the doctor was saying. He was sitting in her office in the pediatrics wing of the Kaiser clinic in Redwood City. "You say you've been having some of the same symptoms?"

"Yes, and Rich says there've been a bunch of his friends out sick this week." DeToll realized he hadn't paid a lot of attention to his son's chatter about schoolmates, so he didn't have any further details.

"He doesn't seem to be getting any worse, and I don't think he's in any immediate danger, but we'd like to do some tests. Maybe keep him here overnight."

"So you think it's serious, then. . ." DeToll tried to read some emotion under the pediatrician's smoothly professional demeanor.

"Now, Mr. DeToll, we're just being cautious." She looked down and wrote some notes into the charts spread open on her desk. "One other possibility that this pattern might fit is some sort of environmental contamination. You work in electronics, Mr. DeToll?"

"Yes, up in Mountain View."

"You work with any chemicals, solvents, exotic materials?"

"A little, but mostly I'm up front in the office. And Rich hasn't been there for weeks." Hurriedly, he tried to check through his memory, making sure that was right. Everyone in the valley was suddenly becoming concerned with toxics—jeez, he hadn't poisoned his own kid, had he?

"How about your wife?" Dr. Malik continued, glancing again at the chart. "Still with the library?"

"Yes . . . I don't think she handles anything strange."

"Has your house been sprayed for termites recently?"

"We rent, but not in the three years we've been there."

"On city water ?"

"Water district . . ."

"Mr. DeToll, if the tests come out the way I think they might, I'd like to send a health investigator by your house, and maybe over to your workplace to take a quick look around. You have any problem with that?"

"No, no, of course not," he answered quickly. Then he realized he probably did have a problem after all.

"Dr. Malik, of course I'll do whatever I need to do for Rich, but I'm sure you realize that because the computer industry is so competitive, we also have some trade secrets to protect. I may have to do some negotiating at work. When would they be coming by?"

"I don't want to alarm you about your son, Mr. DeToll, but if I can get somebody I was thinking perhaps this afternoon. Health investigators are used to keeping secrets, but if they're going to do a good job they'll have to be able to look around fairly thoroughly. "

"Sure. . .I guess if that's best. . .Is there a phone I can use?"

"Over at the nurses' station."

"Let me duck in to see Rich for a moment, then I'll make the arrangements."

* * *

"Jim, it's Oliver DeToll. I've got a slight problem out here. . ."

"Oh? Nothing serious, I hope. . ."

"Probably not, but I'm not going to be able to make it tomorrow for that meeting we had set up. Can we postpone it a few days?"

"What's the problem?"

"Nothing with the panel, at least not directly. But we've had a couple of cases of stomach upset, and the health department wants to send somebody by to look at the lab." DeToll knew that IBM was considered a progressive, pro-family employer, but he didn't know how understanding they would be if he said he was postponing the meeting principally because his son was ill.

"Uh-oh . . . They're not going to find any problems, are they? Your folks and ours both swear the panels are safe."

"Yeah, the panels are okay. And we're pretty good about lab safety. I figure the worst case is maybe one of the solvent cans in the back isn't capped tightly. The Health Department says the investigator who comes out keeps it all confidential, but I'm supposed to check in with you and Security before we let anyone from outside go through the place."

"Well, we want you to cooperate, of course. But keep it local. There's no reason to involve IBM's name in this. And call me if they find any problem. We want you folks to be careful, now."

"Right. Talk with you later."

(to be continued next month)

Steve Rosenthal is a writer, editor and television producer who spent years preparing to write fiction by driving a cab, hitching coast to coast, falling in and out of love, and lately working in the computer industry.

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